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The OIL WEEKLY

OIL and GAS ENGINEERING

INTERNATIONAL AUTHORITY FOR THE PRODUCING AND PIPE LINE INDUSTRY

THE WEEK'S NEWS INTERPRETED

JUN 15 193

Years, even centuries, have but added to the prestige and standing of the few men of long ago who spent their lives creating "Fine Violins." Into the materials at hand went a personal element —one that identified the maker with the product.

and—
"by his Violin
the world knew him"

Craftsmanship
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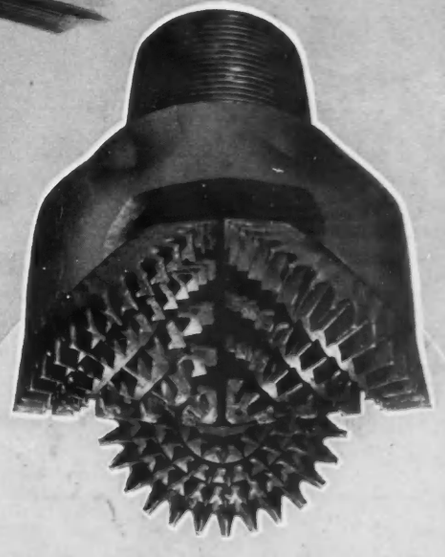
HUGHES ROCK BITS



Hughes Rock Bits have always been more than just so much steel, moulded to a specific design. For almost 30 years they have represented the personal efforts of men who are willing to abide by the Old Violin Maker's theory—"by our work they shall know us."

We believe there is not a driller on a derrick floor today who would not immediately recognize that he had a Hughes "Tailor-Made" Rock Bit on Bottom, by its performance.

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Concrete and Bakelite go together like Bacon and Eggs!

And Here's the Most Efficient Combination of the Two!

This new Larkin Float Shoe was demanded by the oil industry—a shoe with a shock-resistant, genuine Bakelite Guide (now made in all sizes to and including 10¾") with the Bakelite Valve efficiently supported by concrete.

This, like **all** Larkin Float Equipment, is foolproof and absolutely impossible to plug. That's because of the large opening entirely through the valve and guide plus the by-passes to prevent clogging. Therefore, with Larkin Float equipment, it requires less pressure to force down the cement plug than with any other make.

Remember, too, that Larkin Float Shoes are the only ones on the market equipped with Poppet Type Valves—the mechanically correct type of valve similar to that used on all heavy duty pumps and engines—the valve that's machined and lapped, and **absolutely water-tight. The Valve Stem,** formerly made of metal, **has been replaced by a genuine Bakelite stem,** easily pulverized by the drill and circulated out of the hole.

Fig. 427

So, if you want the very best there is in Float Shoes, specify "LARKIN."

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THE OIL WEEKLY

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The Oil Man's Calendar

JUNE 16–18	Pennsylvania Grade Crude Oil Assn., Wm. Penn Hotel, Pittsburgh, Pennsylvania.
20–24	American Society of Mechanical Engineers, St. Louis, Missouri.
JULY 27–28	West Virginia Oil and Natural Gas Association, Charleston, West Virginia.
SEPT. 14–16	National Petroleum Association, Atlantic City.
27 OCT. 2	American Association of Petroleum Geologists, Mid-Year Meeting, El Paso, Texas.
OCT. 12–13	Indiana Independent Petroleum Association, Hotel Severin, Indianapolis, Indiana.
19–21	Independent Petroleum Association of America, Tulsa, Oklahoma.
27–29	Annual Convention Texas Division, Mid-Continent Oil & Gas Assn., San Antonio, Texas.
NOV. 14–18	American Petroleum Institute, (Annual), Stevens Hotel, Chicago.
DEC.	Mid-Continent Oil & Gas Assn., Standing Tax Committees, Dallas, Texas.

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This Week's Panorama

WHAT to do about Saturday and Sunday shutdowns during July is the burning question to be considered at the Texas Railroad Commission's statewide proration hearing at Austin June 20.

In view of some reduction of crude oil stocks in recent weeks, there is agitation for restoration of Saturday production.

But on the other hand, progress in reducing excessive gasoline storage has been disappointing, and fuel oil stocks likewise are far above requirements, indicating that the safer course might be to continue strict crude control for a while and to draw more heavily on above-ground inventories for supplies.

Aside from its responsibility in properly regulating Texas crude production, the railroad commission largely influences the degree of restraint in other leading states, and therefore determines the effectiveness of national curtailment, the other states commonly doing much as Texas does.

Kansas Under-Purchasing Explained

Something new in state regulation took place in Topeka when officials of three crude oil purchasing concerns appeared before the Kansas Corporation Commission recently to show cause why they had failed to purchase as much oil from leases as the commission had specified as allowable output.

The answer was to the effect that the Kansas statute on conservation does not compel a purchaser to accept oil in amount up to that set down as allowable. The answer was, further, that the purchasers could not legally buy more oil than the allowable, but that less than the allowable could be bought in keeping with the demand of each purchaser. Another part of the answer was that the purchasers, Sinclair Prairie Oil Marketing Company, Stanolind Crude Oil Purchasing Company, Phillips Petroleum Company, had nominated amounts less than the May allowable at the hearing before the commission.

The commission took the answers under advisement. The three concerns through pipe line proration took 100,000 barrels less than was set as allowable from Kansas leases in May.

Views on Oil Outlook Differ

Comment currently on oil company securities is about as enlightening as the similar meaningless opinions of the experts on the outlook for the stock market in general.

Some of the commentators say that the "oils" look better because of recent drastic curtailment of crude production; and that a continuation of the curtailment would assure the industry of being in position to respond to any general business revival that might occur in the latter part of the year.

Others assert that oil securities are under increased pressure, in the financial markets of the world, despite their maintenance heretofore of good earning and dividend records; that the trade slump is adversely affecting the industry; that continuing weak commodity prices have particularly adverse implications for the industry, especially inasmuch as some of the most depressed commodities are those where artificial control policies have been employed, as in oil production.

From these opinions it probably may be safely concluded that the oil companies' prospects rate somewhere between ordinary and middling.

Ocean Fields as Naval Reserves

It was indicated last week that Congress would adjourn without taking action on the Nye resolution, making a naval oil reserve of California's off-shore oil fields. But proponents plan to reintroduce a similar measure at the next session of Congress.

Oil for the navy in adequate amounts would be a vital necessity in time of war. Purchase of 5,000,000 barrels of fuel oil for the Pacific fleet alone on a recent date gave a hint of how urgent this need might become in an emergency.

But in the proposed seizure of the California submarine oil as a naval reserve there is a serious defect. This defect is quite apart from theoretical considerations—from pros and cons of titles, or of government in business, as may be hotly argued. This obvious and tangible difficulty is well known to oil operators. It is the problem of offsetting production. Congress, unfortunately, cannot repeal the "law of capture." It cannot prevent oil from flowing toward producing wells.

The four important California areas that the government proposes to take over are parts of fields that are already producing from their shoreward extensions. Three of them are producing from their seaward extensions. The government presumably would have to produce its portions of the structures or else lose the oil. Thus it would place itself in the oil production business. Or, the government might pay the onshore offsetting operators not to produce, more or less as in the case of the farmers.

Certainly, portions of producing fields cannot be regarded as permanent reserves for the navy. If the intention of the government is to derive royalties from oil production, then the properties should not be regarded as naval reserves.

Oil and Gas Make Electric Power

Although electric power is competitive with oil and gas, it also furnishes a market for oil and gas, in so far as those fuels are employed in the generation of the electric power.

Consequently, oil and gas producers have profited in recent years from the steady increase of electric

The Schuler field not only is Arkansas' most active and prolific spot in recent years, but now holds the state's deep drilling honors. The view here shows a part of Phillips Petroleum Company's Justiss lease, where well No. 3 has just been plugged back to the Permian lime and completed as a commercial producer after drilling to 8327 feet, the deepest penetration ever made in the state. It was the third Permian lime well in the field, which now has 65 producing wells, the majority of which are in the Jones or Lower Marine formation.

power consumption to new peak levels in each successive year through 1937.

Total production of electric energy in the United States in 1937 was 9 percent larger than in 1936, and set a new all-time record.

In generating that record production of electric energy, output was at new peak levels for all three types of prime movers: water power, steam, and internal combustion. (The water power output in 1937 represented 36 percent of the total, and the rest of the output was from the other two types of plants.)

The record production of electric energy by fuel plants in 1937 involved record or near-record consumption of each of the three fuels commonly employed, namely, coal, fuel oil, and gas. The coal consumption in 1937 was only slightly less than the all-time peak of 1929, and fuel oil consumption was smaller than in 1923 and 1924, but gas consumption reached a new all-time peak.

The consumption of coal for production of electric energy was 6.5 percent greater in 1937 than in 1936, fuel oil consumption was up 2/10 of 1 percent, and gas consumption was up 9.7 percent.

The fuel oil use in 1937 totaled 14,143,000 barrels, and gas consumption amounted to 171,268,000,000 cubic feet.

In 1938, however, electric power production has been running somewhat lower than in 1937.

Market Digests

Outlook—Remains favorable, in view of prevailing strict curtailment of crude oil production, although situation demands continued close watch on consumption trends and operations.

Crude Markets—Continue steady, through benefit of drastic production curtailment. Relatively low crude stocks are encouraging.

Refined Oil Markets—Prices continue generally firm for most products, and gasoline quotations have improved from 1/8 to 1/4 cent a gallon at Mid-Continent refineries in past few weeks.

CURRENT OPERATIONS

Week Ended	Daily Crude Production	Daily Crude Runs to Stills
June 4, 1938...	3,107,950	3,105,000
Previous week.	3,098,650	3,150,000
Year ago.....	3,538,150	3,195,000
Change from year ago..	—12.2%	—2.8%

CRUDE STOCKS

Date	Crude Oil (Barrels)
May 21, 1938.....	302,597,000
Week ago.....	304,198,000
Year ago.....	304,971,000
Change from year ago.....	—2.9%

REFINED OIL STOCKS

Date	Gasoline (Barrels)	Gas & Fuel Oil (Barrels)
June 4, 1938...	87,767,000	134,632,000
Week ago.....	87,946,000	134,315,000
Year ago.....	77,494,000	97,602,000
Change from year ago..	+13.2%	+37.9%

Drilling Revival Occurs in May

Sharp increase in well completions more than the usual seasonal May-over-April gain, but industry still remains below level in existence year ago

By L. J. LOGAN,
Associate Editor

APPARENTLY in consequence of the restoration of stronger markets and more stable crude and refined oil prices in the latter part of the month, there was a perceptible revival of drilling in May. Consequently, well completions during the month increased sharply over those in April, showing more than the usual, seasonal May-over-April gain.

The May, 1938, drilling was not as great as that of May, 1937, but the completions of the month made a better comparison with one year previously than had the April completions.

Moreover, the May, 1938, completions were a little more numerous than those of May, 1936.

Confidence Increases

Figures on drilling in May of this year reveal that completions were 8.9 percent fewer than in May of last year.

This indicated a definite revival of confidence among operators, as completions in April, 1938, had been 22 percent lower than in April, 1937.

Furthermore, the May field work, this year, showed almost as good a comparison with one year previously as did the whole first five months of 1938, in relation to the similar period last year; whereas March and April had brought comparatively low levels of drilling.

Completions in the first five months of 1938, totaling 10,310 wells, were only 6.1 percent fewer than in the corresponding period of 1937, when the total was 10,982 wells.

June Outlook

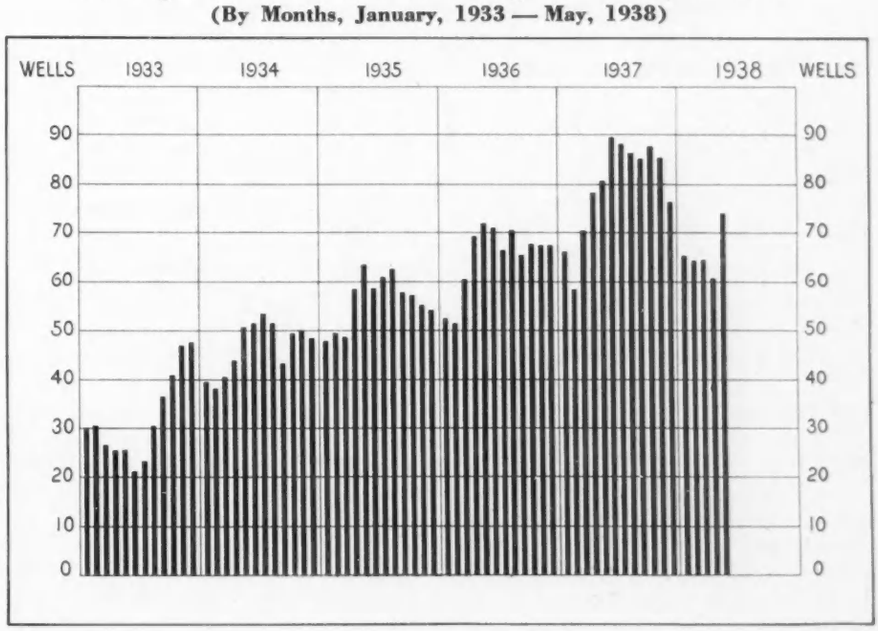
Drilling is continuing relatively heavy in June, and the completions during the month likely will show a normal comparison with May completions.

It is possible that average daily completions in June, 1938, may not quite equal the May, 1938, average, but such a situation would be normal. For in several recent years, notably 1935 and 1936, May brought the annual peak of drilling, and slight declines occurred in June. (In some other years, the peak has not been reached until June, as in 1937.)

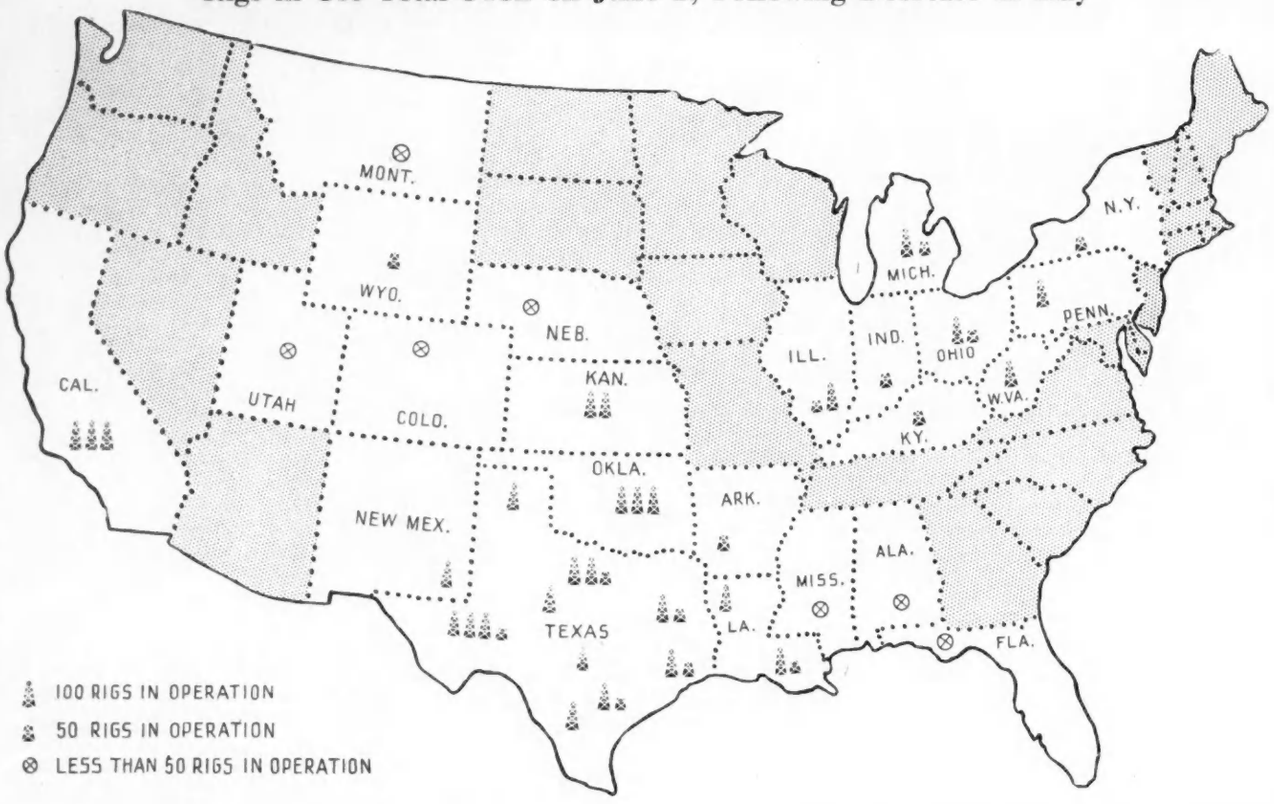
Thus June, 1938, promises to be a month of comparatively heavy drilling, despite the probability that completions will be lower than in June, 1937.

Similarly, it appears likely that

Average Number of Wells Completed Daily in U. S.
(By Months, January, 1933 — May, 1938)



Rigs in Use Total 3482 on June 1, Following Decrease in May



field development may continue relatively active throughout the summer and early fall, although quite possibly not as active as in the similar period last year. (Drilling unquestionably was abnormally heavy in 1937 in the six months from June 1 to November 30, and only a repetition of exceptionally active development could bring this year equally large volumes of drilling.)

Active Rigs Decrease

The information included in an accompanying table on drilling rigs in use June 1 indicates that the peak of drilling may have been reached this year in May, as in 1935 and 1936, and that June may bring a slight decline in activity.

On June 1, 1938, there were 3482 rigs in operation in the United States, or 12.3 percent less than on May 1.

This indicates, although it does not definitely foretell, that completions may be somewhat lower in June than in May. The market situation has continued favorable, and confidence has been further bolstered; and consequently, it is quite possible that an additional stimulation of drilling may occur within the month.

May Completions

In the five weeks, or 35 days, ended May 28, there were 2598 well completions in the United States, equivalent to an average of 74.2 wells daily. That was 8.9 percent fewer completions per day than the 80.8 of May, 1937, but more than the 71.9 daily of May, 1936.

An accompanying table shows how May drilling this year compared with that in May of other recent years.

May of:	Average Daily Completions in U. S.
1933	25.6
1934	50.7
1935	63.6
1936	71.9
1937	80.8
1938	74.2
Change of May, 1938, from May, 1937	—8.9%

First Five Months

Although the 10,310 completions in the United States in the first five months of 1938 were 6.1 percent fewer than the 10,982 in the similar period last year, some important districts have been more active this year than last year.

Illinois, Arkansas, and North Louisiana have experienced the most noteworthy increases in drilling, but gains have occurred also in Coastal Louisiana, Coastal Texas, North Texas, the East Texas field, the Texas Panhandle, California, Mississippi, and some of the Eastern States.

Drilling was lower this year than last year in the first five months in the remaining states and districts, including: Colorado, some of the Eastern States, Kansas, Michigan, Montana, New Mexico, Oklahoma, Texas as a whole, Eastern Texas outside the East Texas field, Southwest Texas, West Texas, West Central Texas, and Wyoming.

Details of completions, by states and districts, for May and the first five months of 1938 appear in an accompanying table, which also embodies comparisons with results last year.

Rigs in Operation

Rigs in operation in the United States decreased 12.3 percent in declining from 3971 on May 1, 1938, to 3482 on June 1. These figures include wells drilling, rigging up, or temporarily shut down. Details by states and districts are presented in another accompanying table.

In the face of the decrease for the country as a whole, additional rigs came into use during May in various areas, including Arkansas, Illinois, Indiana, Kentucky, New York, Ohio,

North Louisiana, Mississippi, the East Texas field, East Central Texas, the San Antonio district of Southwest Texas, the Texas Gulf Coast, and West Central Texas.

Active rigs decreased in May in California, Colorado, the Eastern States as a whole, Pennsylvania, West Virginia, Kansas, Coastal Louisiana, Michigan, Montana, Nebraska, New Mexico, Oklahoma, Alabama, Texas as a whole, the East Texas Border Counties, North Texas, the Corpus Christi and Laredo districts of Southwest Texas, the Texas Panhandle, West Texas, Utah, and Wyoming.

Sustaining development in Arkansas is the Schuler field, and in North Louisiana the Cotton Valley and Lisbon fields are especially active.

Despite a decrease of 24 in the number of rigs in operation during May, the K-M-A field, Wichita and Archer counties, North Texas, continues the most active in the world in drilling. On June 1 the area had 157 rigs in operation, including 137 drilling, 7 rigging up, and 13 shut down. The 137 tests listed as drilling included 6 with surface pipe cemented, 34 drilling below surface pipe and above the oil string, and 97 in process of completion or with oil strings cemented in the deep pay. In the other areas of North Texas, 110 rigs were in operation on June 1.

The East Texas field continues relatively active, despite the curtailment of production lately through the Saturday and Sunday shutdowns. On June 1 it had 73 rigs in use, including 56 drilling, 4 rigging up, and 13 temporarily shut down.

Active Rigs Show Considerable Decline During Past Month

STATE OR DISTRICT	TOTAL RIGS IN OPERATION (Drilling, Rigs Up, Shut Down) Mar. 1, 1938	Apr. 1, 1938	May 1, 1938	June 1, 1938	Percent Change of June 1, from May 1	DETAILS OF JUNE 1, 1938, ACTIVITY Rigs in Operation: Drilling	Rigs Up	Shut-down	Prelim. Activity: Der-ricks	Loca-tion	Total Oper-ations
Arkansas	51	51	44	46	+ 4	31	10	5	1	2	49
California	390	401	388	322	− 17	252	10	60	80	62	464
Colorado	22	25	26	11	− 58	10	...	1	...	1	12
Eastern States	563	626	625	546	− 13	298	77	171	56	80	682
Illinois	128	130	157	175	+ 11	77	32	66	39	43	257
New Fields	60	72	97	111	+ 14	54	29	28	24	18	153
Rest of Illinois	68	58	60	64	+ 7	23	3	38	15	25	104
Indiana	40	30	25	27	+ 8	9	3	15	1	8	36
Kentucky	56	55	54	62	+ 15	38	7	17	9	20	91
New York	35	30	20	51	+155	40	5	6	...	...	51
Ohio	172	148	138	140	+ 1	82	21	37	5	6	151
Pennsylvania	121	109	115	91	− 21	52	9	30	2	3	96
West Virginia	139	124	116	100	− 14	71	8	21	10	6	116
Kansas	280	256	262	187	− 29	165	17	5	18	14	219
Louisiana	215	211	233	237	+ 2	205	19	13	16	33	286
North Louisiana	104	89	100	114	+ 14	91	12	11	8	6	128
South Louisiana	111	122	133	123	− 7	114	7	2	8	27	158
Michigan	165	172	173	169	− 2	121	18	30	39	24	232
Montana	37	42	51	21	− 59	10	1	10	...	4	25
Nebraska	3	3	3	1	− 67	1	...	...	...	...	1
New Mexico	95	133	114	112	− 2	85	4	23	5	12	129
Oklahoma	329	360	358	315	− 12	277	21	17	24	10	349
Southeastern States	21	20	20	22	+ 10	8	1	13	5	4	31
Alabama	4	4	4	3	− 25	...	...	3	...	2	5
Florida	4	4	4	4	.....	2	...	2	2	...	6
Georgia	...	...	1	...	.....	...	...	...	...	...	...
Mississippi	13	12	11	15	+ 36	6	1	8	3	2	20
Texas	1,565	1,602	1,607	1,465	− 9	1,168	76	221	98	354	1,917
East Texas Field	88	100	71	73	+ 3	56	4	13	24	16	113
East Texas Border Co.'s	30	32	36	34	− 5	27	5	2	5	4	43
Rest of East Texas	48	44	43	51	+ 19	36	3	12	4	4	59
North Texas	267	308	356	267	− 25	224	10	33	5	118	390
South Texas	461	393	344	333	− 3	253	34	46	22	87	432
Corpus Christi Area	317	229	177	167	− 6	136	18	13	10	46	223
Laredo Area	89	99	96	81	− 16	57	10	14	8	24	113
San Antonio Area	55	65	71	85	+ 20	60	6	19	4	17	96
Texas Gulf Coast	139	155	156	160	+ 3	155	3	2	17	45	222
Texas Panhandle	109	128	139	120	− 14	94	12	14	4	11	135
West Texas	361	389	386	340	− 12	275	4	61	14	60	414
West Central Texas	62	53	76	87	+ 14	48	1	38	3	9	99
Utah	4	6	6	1	− 83	1	...	...	...	...	1
Wyoming	60	65	61	27	− 56	23	1	3	...	...	27
Total United States	3,800	3,953	3,971	3,482	− 12.3	2,655	255	572	342	600	4,424

Completions and Production for First Five Months Slightly Lower This Year Than Last Year

STATE OR DISTRICT	*MAY, 1938, COMPLETIONS AND CRUDE OIL PRODUCTION Total Wells	Oil	Gas	Dry	Initial Production	Production for May	COMPLETIONS AND PRODUCTION IN FIRST 5 MONTHS, 1938 AND 1937 WELLS COMPLETED 1938: 5 Mo.	1937: 5 Mo.	Percent Change	DETAILS OF 1938 DRILLING Oil	Gas	Dry	Initial Production	BARRELS PRODUCTION 1938: 5 Months	1937: 5 Months	Percent Change
Arkansas	28	21	....	7	21,762	1,353,150	94	32	+194	77	....	17	70,404	7,141,950	4,070,350	+75
California	140	117	1	22	100,627	21,271,900	599	590	+ 2	473	5	121	443,428	108,217,100	91,878,600	+18
Colorado	1	1	....	1	18	117,300	4	6	− 33	2	....	2	510	613,450	612,550	+ 2
Eastern States	407	226	93	88	36,007	4,459,450	1,465	1,178	+ 24	590	491	384	85,625	21,140,600	17,481,800	+21
Illinois	160	131	2	27	33,229	.....	372	37	+905	269	3	100	78,223	.....	.....	....
Indiana	11	3	1	7	320	.....	46	45	+ 2	8	13	25	396	.....	.....	....
Kentucky	73	40	16	17	1,834	.....	274	79	+247	131	64	79	4,358	.....	.....	....
New York	4	....	4	....	.....	.....	19	4	+375	.....	18	1	.....	.....	.....	....
Ohio	79	22	35	22	483	.....	362	594	− 39	101	151	110	2,041	.....	.....	....
Pennsylvania	32	21	7	4	92	.....	92	68	+ 35	29	50	13	219	.....	.....	....
West Virginia	48	9	28	11	49	.....	300	351	− 15	52	192	56	388	.....	.....	....
Kansas	165	113	4	48	127,107	4,869,050	752	951	− 21	516	36	200	599,713	25,719,600	27,861,150	− 8
Louisiana	102	70	6	26	34,917	8,009,350	422	308	+ 37	286	20	116	150,447	38,848,300	37,114,400	+ 5
North Louisiana	51	44	2	5	24,352	2,458,400	196	120	+ 63	165	12	19	97,824	11,937,200	11,177,750	+ 7
South Louisiana	51	26	4	21	10,565	5,550,950	226	188	+ 20	121	8	97	52,623	26,911,100	25,936,650	+ 4
Michigan	82	47	3	32	6,876	1,696,200	326	346	− 6	205	9	112	39,464	7,832,800	5,611,000	+39
Montana	6	4	1	1	4,930	418,000	24	51	− 53	14	4	1	5,795	2,013,750	2,398,700	−16
New Mexico	50	43	1	6	24,287	3,054,800	206	288	− 28	179	4	23	115,155	15,772,700	15,394,200	+ 3
Oklahoma	227	158	17	52	27,700	14,498,300	899	1,275	− 29	590	65	244	135,936	76,640,750	94,573,600	−19
Southeastern States	4	.....	1	3	.....	.....	13	7	+ 86	1	1	11	240	.....	.....	....
Alabama	.....	.....	.....	.....	.....	.....	1	1	.....	.....	.....	1	.....	.....	.....	....
Florida	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....
Georgia	1	.....	.....	1	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	....
Mississippi	2	.....	.....	2	.....	.....	9	6	+ 50	.....	.....	9	.....	.....	.....	....
Tennessee	1	.....	1	.....	.....	.....	2	.....	.....	1	1	.....	240	.....	.....	....
Texas	1,378	1,049	34	295	1,566,969	39,140,450	5,473	5,904	.....	4,181	170	1,122	6,748,228	196,115,700	204,344,250	− 4
East Texas Field	214	214	....	....	1,068,330	12,239,350	999	868	+ 15	977	....	22	4,959,695	65,016,000	68,638,150	− 5
Rest of East Texas	54	33	4	17	16,263	3,056,450	228	421	− 92	148	14	66	72,172	14,295,350	17,197,700	−17
North Texas	337	238	2	97	123,513	2,324,650	1,030	957	+ 8	714	8	308	365,770	10,751,850	10,374,950	+ 4
South Texas	275	169	14	92	72,478	6,744,750	1,156	1,524	− 24	723	65	368	275,066	33,784,300	32,868,150	+ 3
Corpus Christi Area	123	86	9	28	58,468	.....	497	616	− 19	327	33	137	203,206	.....	.....	....
Laredo Area	110	61	3	46	11,741	.....	474	708	− 33	291	28	155	61,096	.....	.....	....
San Antonio Area	42	22	2	18	2,269	.....	185	200	− 7	105	4	26	10,764	.....	.....	....
Texas Gulf Coast	148	117	5	26	48,962	6,051,050	617	590	+ 5	482	23	112	202,420	29,546,950	29,662,450	− 0.4
Texas Panhandle	57	48	5	4	20,992	2,018,350	277	272	+ 2	218	43	16	97,979	9,940,150	11,301,950	−12
West Texas	265	221	2	42	214,099	5,833,450	1,038	1,092	− 5	877	9	152	768,231	28,444,850	29,362,450	− 3
West Central Texas	28	9	2	17	2,332	872,400	128	180	− 29	42	8	78	6,965	4,336,500	4,938,450	−12
Wyoming	8	6	....	2	706	1,569,250	33	46	− 28	19	8	6	12,095	7,408,450	7,747,350	− 4
United States Total	2,598	1,855	161	582	1,951,906	100,457,200	10,310	10,982	−6.1	7,133	813	2,364	8,407,040	507,465,150	509,088,150	− 0.3

* May completions cover not the calendar month, but the five weeks, or 35 days, ended May 28.

Vicksburg Looms As Major Crude

By EARL S. POST,

DISCOVERY of two Jim Wells County oil fields with an expected recovery of at least 300,000,000 barrels, booms the Vicksburg formation as a probable major source of South Texas reserves. Except for limited exploration in which a few gas-distillate showings have been encountered, this horizon was until several months ago virtually an unknown quantity in South Texas.

Now, a trend 25 miles wide and 250 miles long, extending from the south corner of Hidalgo and Starr counties north and northeast parallel to the Gulf of Mexico into Jackson County is subjected to a leasing and exploratory program to this formation.

The new trend borders the Frio zone on its up-dip side and the Jackson area on its down-dip. The result is that production in all three formations is possible through the majority of this newly developed producing zone.

Just what is to be expected from this trend remains to be seen, but it is evident that such spectacular showings from its first crude wells will lead to further fields of like proportions. Likewise, per acre recoveries are calculated at the highest figures for South Texas and the first two important fields indicate vast producing areas.

Used To Be Too Deep

Until recently, Vicksburg formation was that zone too deep to be drilled along the Frio trend and seldom tested in wells projected to the Jackson. Also, much controversy has been prevalent concerning the exact position of the various markers, few agreeing on the marine zone immediately below the Frio. It is likely that considerable exploration will be resorted to before the Vicksburg is definitely classified.

Alice and East Premont fields, Jim Wells County, definitely can be termed as major producing areas. The former is mapped to cover 4000 acres of Vicksburg production, while the latter is rated as a 5000-acre or larger pool. The discovery well at Alice had 50 feet of sand section leading to the prediction of a 120,000,000-barrel or greater recovery, while East Premont's initial operation logged a 112-foot sand zone giving it a 200,000,000-barrel or greater classifi-

Jim Wells County—Alice Field

HISTORY

Discovery of producing possibilities of the Alice structure came in 1937 when H. H. Howell drilled two non-commercial producers about seven miles southwest of Alice. Five miles northeast of these wells, Presnall and Mosser completed Mortgage Investment Company 1, La Vaca Grant, in Frio sand at 3480-96 feet on April 15, 1938, flowing 2,800,000 cubic feet of gas and 4 barrels of 38.8 gravity oil per day through 3/16-inch choke.

Vicksburg production was opened just south of a point midway between the previously drilled wells, when H. H. Howell's Reed & Lindsay 1 was completed April 18, 1938, flowing 178.47 barrels of 43.8 gravity crude through 1/8-inch choke from perforations at 4375-85 feet. It had been drilled to 4430 feet, logging 50 feet of solid sand between 4375-4425 feet and setting casing on bottom. The choke was opened slightly and production showed a material increase, indicating a very large well.

One of the hottest leasing programs in the history of South Texas immediately followed the deeper discovery, resulting in several millions of dollars being spent within 15 days for leases over an area exceeding 25 square miles. A drilling program is following on these new purchases.

GEOLOGY

Generally, the Alice field is atop a regional high, which likely includes nosing or folding. Faulting to the west and southeast of the main structure is indicated by regional reconnaissance. Correlations further indicate that there is a saddle through the central portion of the structure and lying west of the Vicksburg discovery well. The Vicksburg is believed to show a rapid dip to the southeast.

Producing formations already proved are in the Frio between 3000 and 4000 feet, with the main zone expected to be in the Vicksburg formation where 50 feet of sand was encountered in discovery well. The discovery well, which had elevation of 240 feet, derrick floor, topped fossils at 2778-2810 feet; Frio at 3042-3073 feet, First Shells, considered top of Vicksburg, at 5197-5228 feet; and Ammobaculites at 5400-5418 feet.

RESERVES

Expected ultimate recovery from Vicksburg formation on basis of the probable producing area of 4000 acres at that level is 120,000,000 barrels, or 30,000 barrels per acre. Full extent of the field may be larger, with sand lenses in Frio.

New South Texas Oil Reserve

Staff Writer

cation. Such recovery possibilities have turned the heat of trading onto the trend, and major and independent companies alike are taking vast spreads at relatively high prices.

Likened to Frio

The Vicksburg discoveries are looked upon by many as the beginning of another play similar to that during the early days of the Frio and Jackson trend. When the active plays commenced on each of these trends, new pools, some of fair consequence and others of minor importance, were opened in short order. The Frio play, especially, during the past five years has kept the South Texas reserve situation constantly accelerating. The prediction that this third Gulf Coast producing trend will see a similar exploratory program.

First Vicksburg production was discovered in South Texas in September, 1932, when Gulf Production Company's D. M. O'Connor 2 flowed several million cubic feet of gas per day at 5687-5710 feet. The well was later deepened to 6860 feet and abandoned as a result of heaving shale. It found first marine 3400 feet; Anom. Ostracods or upper Vicksburg at 5370 feet; Tex. Warreni 5830 feet; elevation being 89 feet. A 120-foot sand zone was found around 5900 feet. This would indicate that the gas producing section in this well was about the same level geologically as the oil production section in the East Premont field, and the thick sand section below was about the same as the producing zone in the Alice pool. Finding such thick sand bodies along this trend further indicates that lenses on structure will provide large recoveries.

All Below 4000 Feet

Of particular interest is the producing depths. All of the fields actually productive of either distillate or oil in the Vicksburg are below 4000 feet and above 7500 feet. The formation, as indicated by the accompanying cross section, shows a steep rate of dip, at least 200 feet to the mile on an average. It therefore, would be expected that the Vicksburg shore line would largely control the production between the 4000-7500-foot levels. The Vicksburg does not outcrop at the surface, but is a wedge between the

Jim Wells County—Alice Field

DRILLING

Standard deep well drilling equipment is expected to be regularly used to drill to the 5400-foot zone. Likely this will include 122-foot derricks, heavy substructures and 6-inch or heavier rigs. Power plants in most cases will include three 125-horsepower boilers capable of building up 300 pounds of steam. Engines to be 12 x 12 or 14 x 14. Two slush pumps to be 7¼ x 18 or 7¼ x 20. Blowout preventers, commercial muds and other precautions against high pressure gas sands are expected to be required as regular equipment.

Drilling is comparatively easy. A great amount of coring probably will be required as limited development already has proved multiplicity of sands with production possibilities. Much of the section may be continuously cored. Drill stem testing also is expected to be done to a great extent.

Drilling time, including completion into tanks, should not exceed 30 days; average costs, including well tied into tanks, $25,000 to $35,000, depending upon equipment and exploration.

CASING

Conductor pipe probably will not be set in first operations, but the recommendation is that 60 to 120 feet of 13⅜ to 18⅝-inch casing, cemented.

Surface casing is 10-inch, set to about 600 feet in first operations, but recommendation is 10¾-inch to 1000 or 1200 feet, cemented to surface.

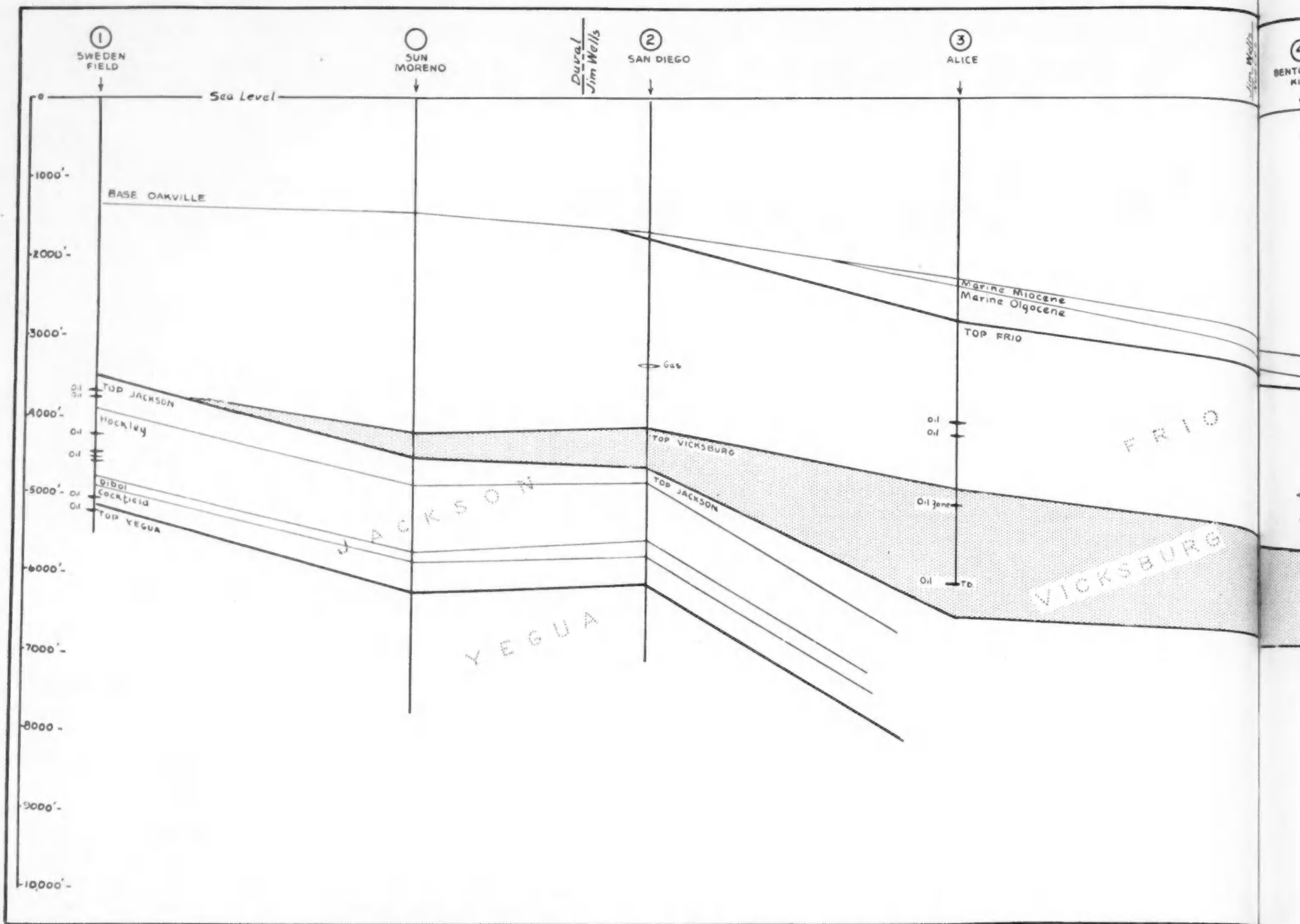
Producing string of casing in discovery well is 7-inch, landed on bottom, with well being completed through perforations in sand. The common practices likely will include 5½ to 7⅝-inch, either set atop the sand or through it, depending on conditions of the horizon in the particular well.

Liner in some wells where casing has been set atop sand.

PRODUCING EQUIPMENT

All wells will be flowed through tubing on chokes, probably ranging from 1/16 to 5/16-inch, depending upon gas conditions. Tubing is 2½-inch.

Surface equipment will include in most cases about 5000-pound test Christmas trees, double flow line assemblies, one separator and two flow tanks.



Steep dipping of the Vicksburg formation is shown by cross sections of the formation between Duval County and the Nueces Bay illustrated on this and the facing page.

Frio and the Jackson. Far enough up-dip, there is no Vicksburg, the Frio being immediately adjacent to Jackson formation. In a few isolated cases, Vicksburg is wedged in from 900 to 2100 feet, but in the majority of instances, it does not occur until at least 2500 feet. This shore line, therefore, is most definite, and possible production lies farther down dip where sands have had a chance to be laid down in sufficiently thick bodies to provide a producing zone. Continuing coastwise, the effect of the shore line is quickly lost, due to rapid dip in the formation. For this reason, a maximum width of 25 miles along this 250-mile trend is within the main play. Farther down dip, it is generally conceded that no production will be obtained in the Vicksburg unless the formation is on a most definite structure.

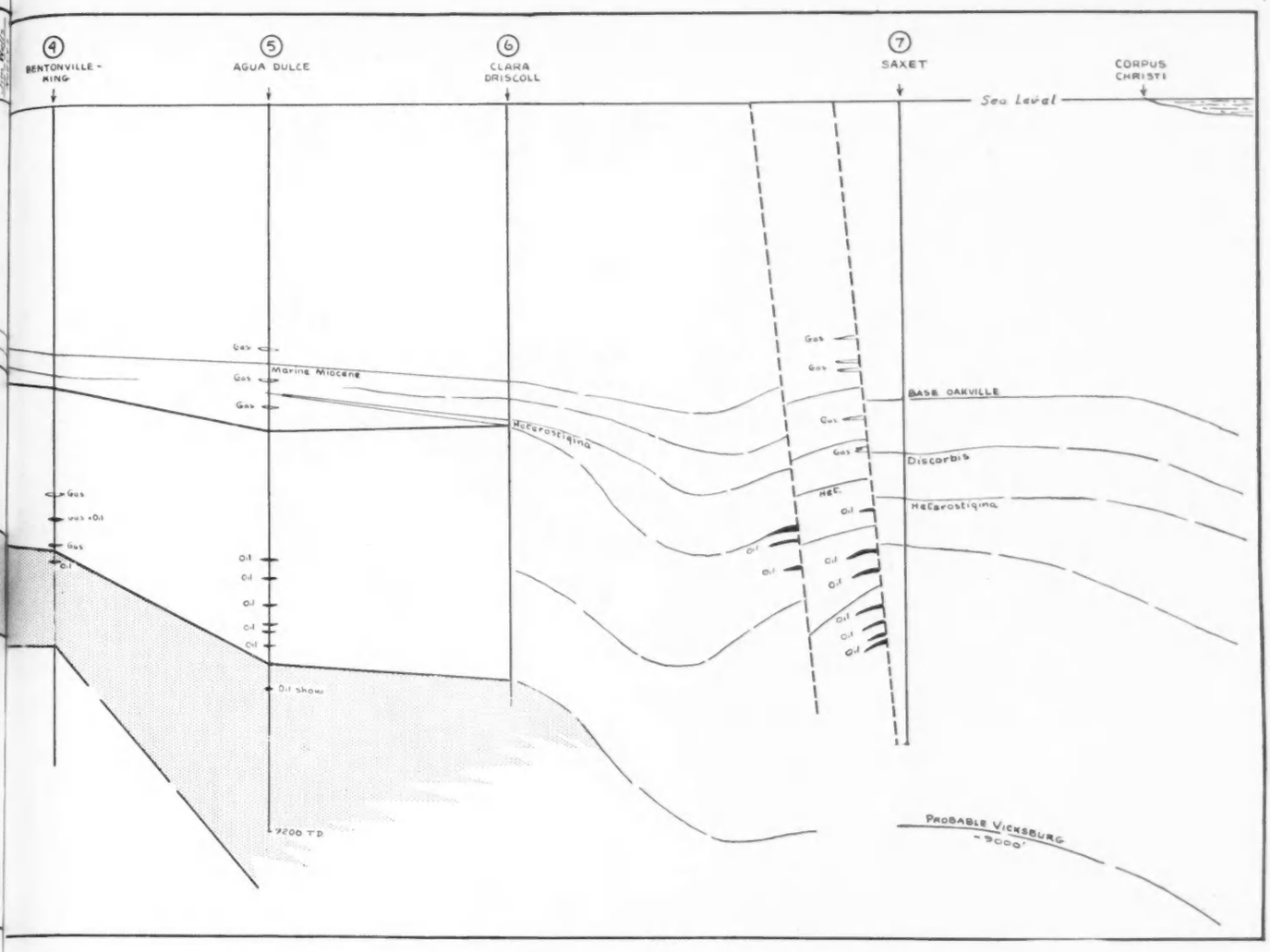
Where It Will Be Deeper

Flour Bluff, Saxet and other anticlines or faulted areas, are looked to as favorable producing zones. Their depth, however, will be great. Considering the rapid dip, it is likely that the Vicksburg will not be topped at less than 10,500 feet in the Flour Bluff field and that the sands corresponding to those of the Alice field will not be found at less than 12,000 feet.

In looking at the Vicksburg trend from a broad point of view, it is most evident that there will be a highly active play. Transwestern Oil Company completed a 4259-foot Vicksburg sand distillate producer in east central Starr County, February 21, 1938, to open the Rincon field. Following up trend are the East Premont and Alice fields in Jim Wells County. On the Jim Wells-Nueces County line, La Jita Corporation on December 31, 1936, completed Frame-Bowers 2 to open Vicksburg sand production at 5685 feet in the Bentonville-King field. Union Producing Company's W. R. Harvey 1, on May 11, 1937, flowed considerable oil after perforating at 7385-94 feet to open Vicksburg production in the Agua Dulce field of Nueces County. The well went to water and was abandoned. Still farther northeast and along the general trend, Rual B. Swiger et al's Carrie Wood 1-B, a small oil producer in the Vicksburg at 5009-15½ feet, opened the Sarco Creek field of Goliad County. The Gulf Production Company's Vicksburg gasser is farther east. In the Edna field, Jackson County, several deep wells showed for producers of distillate and gas in the Vicksburg below 5000 feet. These discoveries definitely line up the trend of play which is expected to be followed.

Why Recovery Will Be High

The high possible recovery in these zones is accounted for by the steep dipping of the formation. Although the sand sections likely will be limited to 30 to 125 feet in thickness the expected yield in some cases may range above 50,000 barrels per acre. The width of the probable producing zone generally is not expected to exceed 25 miles,



yet the source area is probably equivalent to the Frio or Jackson, which covers a much wider territory. It, therefore, would be expected that whole reserve for the horizon would be crowded within this limited space.

Thus far, only production obtained is mainly controlled through the combination of structure and shoreline. The Alice and East Premont field, especially, are considered sand lenses against regional structural features. Down dip, the sands are expected to increase in thickness, while up structure, they are expected to completely pinch out.

Few wells along the lower Frio trend have ventured to the Vicksburg. Several tests in the Refugio-Tomoconnor sector carried to 8500-10,000-foot levels found the Vicksburg below 8200 feet. In most cases they found oil and gas showings, although no commercial production has resulted. One well at 7700 feet, about 500 feet above the Vicksburg, was completed in the Refugio field, Refugio County, by the Union Producing Company, but it quickly went to salt water and was plugged back to regular zones. Edwin M. Jones, however, attempted to finish a test at 9131 feet several years ago, some 850 feet below the top of the Vicksburg formation, but it proved a mechanical failure. A test drilled below 8100 feet in the Saxet field of Nueces County by the Southern Minerals Corporation still was in the Frio formation.

Thumbnail Sketches of Vicksburg Fields

GOLIAD COUNTY

SARCO CREEK

T. J. Heard Survey, 8½ miles south of Goliad. **Means of Discovery:** Surface and subsurface geology. **Vicksburg Discovery Well:** R. B. Swiger et al's Carrie Wood 1-B, completed January 23, 1938, 5048 ft, oil sand 5009-18 ft, sand and shale 5018-48 ft, 5½-in casing at 5047 ft, perforated 5009-15½ ft with 24 shots, pumped 34.5 bbls 21.7 gravity oil per day. Topped first volcanic glass Gueydan, 2454-63 ft; Heterostegina 3096-3126 ft; oyster shells, Vicksburg, 4457-87 ft; 113 ft, derrick floor, elevation. **Structure:** Anticline with fault of 400-ft displacement. **Extent of Development:** Discovery well only. **Reserve Data:** Estimated ultimate recovery 3500 bbls per acre.

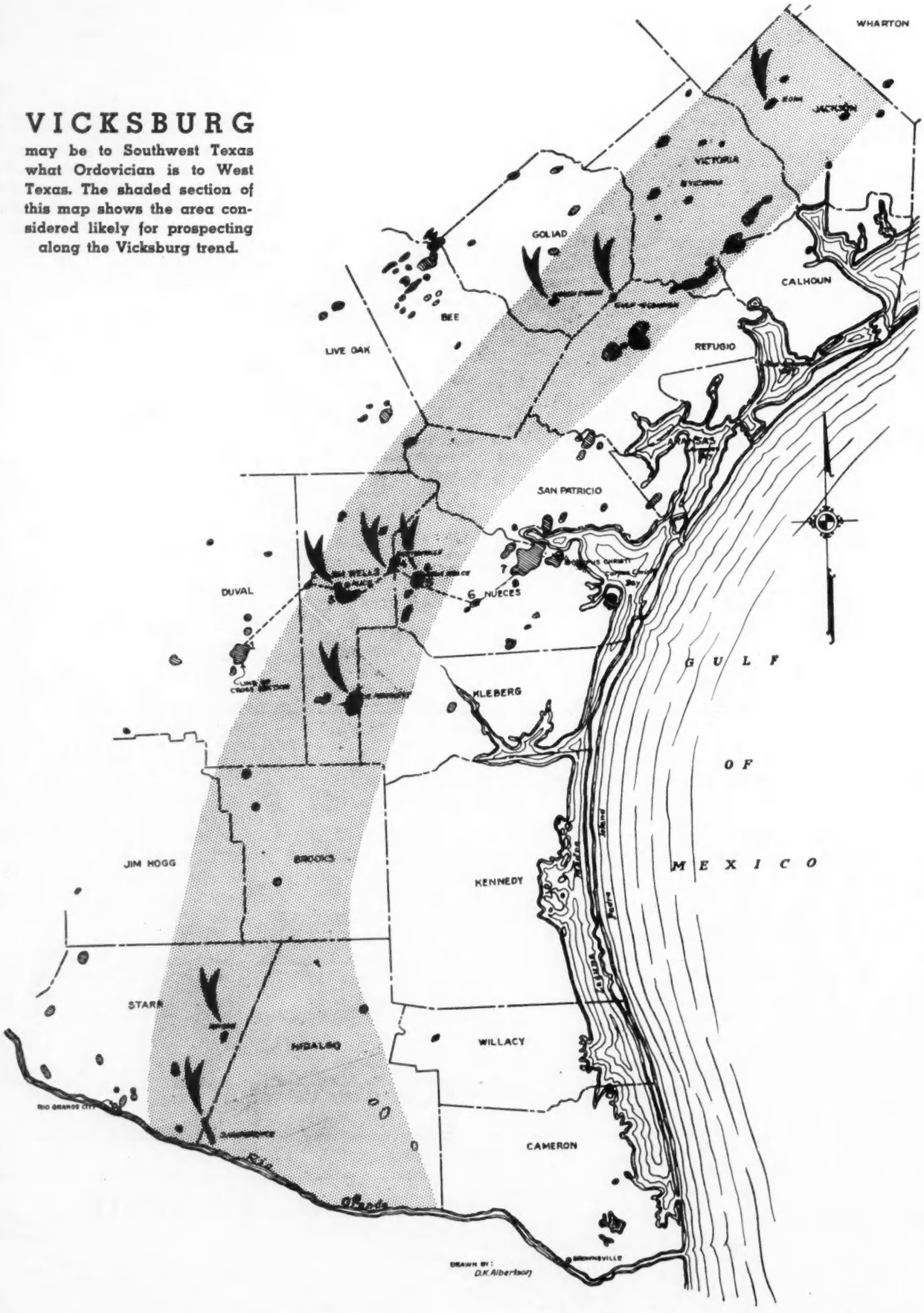
JACKSON COUNTY

EDNA

N. Rodriguez Survey, 5 miles northeast Edna. **Means of Discovery:** Field previously had produced at shallower depths, but geophysical work on prospect was done before deeper drilling. **Vicksburg Discovery Well:** Chicago Gulf Oil Corp.'s S. G. Druschell 10, completed September 6, 1936, depth 5367 ft, sand 5341-48 ft, flowed 40,000,000 cu ft gas spraying 50 gravity oil. Well later

VICKSBURG

may be to Southwest Texas what Ordovician is to West Texas. The shaded section of this map shows the area considered likely for prospecting along the Vicksburg trend.



deepened to 5425 ft, then plugged back. Taken over in 1936 by Steinberger Petroleum Corp., plugged back to 4800-20, completed as gasser. Ostrea shell fragments, 3250-80 ft; Discorbis, 3520-50 ft; Heterostegina (may be slightly higher) 3653-90 ft; Vicksburg, questionable, likely around 5325 ft; Tex. Warreni, 5474-77 ft. **Structure:** Closed domal, with about 300 ft or more of closure covering about 6,000 acres. **Extent of Development:** Only limited amount of exploration to or below Vicksburg. Steinberger Petroleum Corp.'s Druschell 1, drilled in 1936, found several sands in Vicksburg ranging up to 45 ft in thickness, carrying either gas or oil. **Remarks:** Most northeasterly field of the group of South Texas areas to develop production in the Vicksburg.

JIM WELLS COUNTY

BENTONVILLE-KING

Section 14, King Ranch Subdivision, north of Bentonville. **Means of Discovery:** Geological information based on subsurface correlations. **Vicksburg Sand Discovery Well:** La Jita Corp.'s Frame-Bowers 2, completed December 31, 1936, depth 5685 ft, sand 5653-63 ft, hard sand 5663-65 ft, broken sand 5665-71 ft, shale 5671-79 ft, sand cap 5679-81 ft, soft sand 5681-85 ft, 7-in casing at 5679 ft, flowed 190 bbls of 42 gravity oil per day ⅛-in choke, tubing pressure 725 lbs, casing pressure 950 lbs, gas oil ratio, 485:1. First Vicksburg Ostracods 5625-31 ft, elevation 141 ft, derrick floor. **Structure:** Faulted, domal type with sand lensing. **Extent of Development:** Although several wells have been drilled into the formation, only one Vicksburg sand producer has resulted. **Reserve Data:** Estimated 100,000 barrels for one well. **Remarks:** This is first oil production to be discovered in Vicksburg formation in South Texas. Previous completions were either gas or distillate.

EAST PREMONT

Las Jaboncillos Grant, 4 miles southeast of Ella. **Means of Discovery:** Geophysical information, followed by geological survey. **Vicksburg Discovery Well:** Magnolia Petroleum Co.'s A. A. Seeligson 7, completed December 6, 1937, depth 8165 ft, sand 6582-6694 ft, 7-in casing at 6779 ft, perforated 6585-95 ft with seven shots, flowed 1386 bbls 36.5 gravity crude per day, 9/64-in choke, tubing pressure 2000 lbs, casing pressure 1800 lbs. **Paleontology:** Oakville, 2215-17 ft; Catahoula, 2821-52 ft; Heterostegina 3551-53 ft (top of Heterostegina equivalent) 3737 ft; Frio, 4074 ft; Lower Frio or lower Marine, 6455-57 ft; Texluteria Warreni, 6697-6701 ft. **Structure:** Domal type with Vicksburg production in sand lensing on flank. **Extent of Development:** Two oil producers completed, third test drilling. **Reserve Data:** Estimated that field will cover at least 5000 acres and that recovery will approximate 250,000,000 bbls. **Remarks:** This is considered the largest field ever discovered in South Texas. It is the first major producing area in the Vicksburg. Discovery well on 20,887.4-acre lease held by three companies as follows: Sinclair Prairie Oil Co., ¼; Transwestern Oil Corp., ¼; Magnolia Petroleum Co., ½. Humble Oil & Refining Co.'s giant King Ranch adjoins to the east and south. Darby Petroleum Corp. and Sun Oil Co. control majority of other close in acreage.

NUECES COUNTY

AGUA DULCE

Palo Alto Grant, western portion of county, southwest of Agua Dulce townsite. **Means of Discovery:** Geophysical survey, plus geological information based on Frio and Catahoula wells previously drilled. **Vicksburg Discovery Well:** United Production Corp.'s W. H. Harvey 1, completed May 11, 1937, depth 9002 ft. Gas sand 7335-58 ft; broken sand 7358-74 ft; hard sand 7374-75 ft; sand cap 7375-78 ft; sand and shale with oil show 7378-82 ft; oil sand 7382-96 ft; sand cap 7396-98 ft; salt water sand 7398-7415 ft; 7-in casing 7460 ft, perforated 7375-84 ft with 30 shots, flowed 5 bbls 40 gravity oil and some salt water per hour, ⅛-in choke, tubing 2300 lbs, casing 2800 lbs; went to gas and salt water, abandoned July 1, 1937. First Ostrea fragment, 3371-3801 ft; Elphidium, 4011 ft; top rare lignite 6595-7003 ft; oysters and cytheridiae, 7110-17 ft; lignite 7186-92 ft; Eponides Golivina and small Discorbis, 7448 ft; Text. Sp. (definitely not Warreni) 7728-31 ft; first Text. Warreni, 8747-57 ft. **Structure:** Domal anticline and faulting. **Extent of Development:** Five wells carried to Vicksburg by Union Producing Co. T. S. Schroeder No. 1, depth 8230 ft, perforated 6835-45 ft with 30 shots, completed October 24, 1937, flowed 240 bbls distillate per day, 3/16-in choke, tubing pressure 2529 lbs, casing pressure 3050 lbs. Well is deepest well in field, but is above Vicksburg. **Reserve Data:** No commercial production yet developed. **Remarks:** Structure is looked upon as probable producer in Vicksburg ultimately. It is the first area in South Texas to be given a consistent exploratory program for this type of production, likewise, it is the deepest.

REFUGIO COUNTY

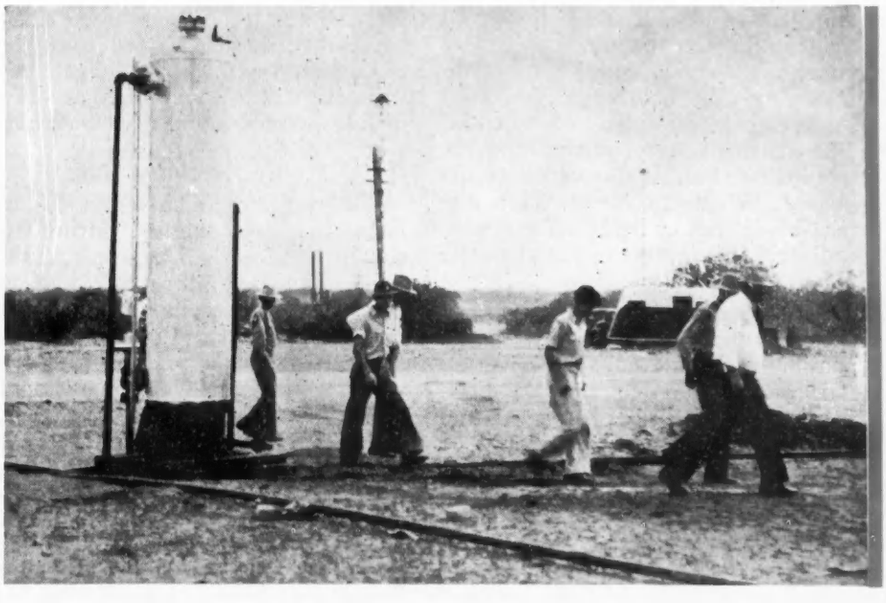
GULF-O'CONNOR

CEPI&M Survey 2, near common corners of Refugio, Victoria, and Goliad counties. **Means of Discovery:** Geological information. **Vicksburg Discovery Well:** Gulf Production Co.'s D. M. O'Connor 2, completed September 9, 1932, sand and shale streaks 5678-5710 ft, 7-in casing at 5678 ft, flowed several million cu ft dry gas, tubing pressure 1300 lbs, closed in pressure 2100 lbs, later deepened to 6860 ft and abandoned February 15, 1933, in heaving shale. First glass Gueydan, 3257 ft, first marine 3400 ft; Anomol Ostracods, upper Vicksburg, 5370 ft; Tex. Warreni, 5830 ft; Fayette above 6700 ft; elevation 89 ft. **Structure:** Sand lensing and nosing. **Extent of Development:** Several failures drilled. **Reserve Data:** Area abandoned. **Remarks:** Discovery well had 120-ft sand section below Warreni zone in Vicksburg.

STARR COUNTY

RINCON

Section 266, 16 miles north Samfordyce. **Means of Discovery:** Geophysical survey. Seismograph indicated favorable structure. **Vicksburg Discovery Well:** Transwestern Oil Corp. and D. D. Oil Co.'s Slick School 1, completed February 21, 1938, depth 6862 ft, sand 4172-4259 ft; 5-in casing set 4341 ft, perforated 4212-30 ft with 18 shots, flowed estimated 5,000,000 cu ft gas, 80 bbls 59 gravity distillate, 5 percent water, ⅜-in choke; tubing pressure, 1550 lbs; casing pressure, 1675 lbs. Frio, 1945 ft; Vicksburg, 3951 ft; elevation 472 ft, derrick floor. **Structure:** Anticline. **Extent of Development:** Three wells drilled prior to discovery, none since. **Reserve Data:** Distillate production, no estimate available. **Remarks:** Development of oil production on flanks of structure possible. Production from 270 ft below top of Vicksburg in 87-ft sand section.



Separator on deep discovery well of Vicksburg in Southwest Texas. The two drilling rigs seen dimly in the background are on the Howell lease.

By BRAD MILLS,
Associate Editor

California Is in Another Major Discovery Cycle

Five of eight new fields looked upon as major crude reserves and ratio of discoveries to dry holes highest in history.

CALIFORNIA is passing through a major discovery cycle that already has equaled or exceeded the Kettleman Hills-Elwood discovery cycle of 10 years ago. The total oil reserve represented by the Wilmington, Santa Maria Valley, Ten Section, Greeley, Rio Bravo, Canal and El Segundo and Wasco fields probably exceeds that credited to Kettleman Hills. Other major discoveries are likely before the current cycle ends. Not one of the new fields has been fully outlined, but five of the eight are recognized as first class reserves.

The current discovery cycle started two years ago, and followed a long period that failed to yield a major discovery. The Huntington Beach-Long Beach-Santa Fe Springs discovery cycle of 1921 almost drowned the world in refinable oil, but major discoveries dried up until 1928. Strangely enough, Kettleman Hills practically stood alone in a cycle. That field, however, added enough to reserves to fill the discovery deficit that had been incurred since 1923.

The causes that bring about a discovery cycle in California are varied, but necessity has been the chief driving force since 1917.

Active development of recent discoveries is now under way, and the effect of major additions to reserves is reflected in the weekly completion column. Discoveries of the past two years changed both the reserve and development picture from one of doubt to an actual overproduction of oil. Oil reserves have been greatly increased, but estimates at this stage of development could not possibly reflect the true reserve status.

The most interesting and significant development to come from the current discovery cycle is the change in sentiment toward the future supply of oil. Three years ago the hysteria of exhaustion that periodically sweeps California was widespread. Such a situation preceded the 1921 and 1928 discovery cycles, but in each instance a flood of oil came along to fill the breach. The five first class fields found since 1935 erased the deficit in short order, and the end is not yet in sight. It is hardly possible that a complete drying up of discoveries will occur during the next two years.

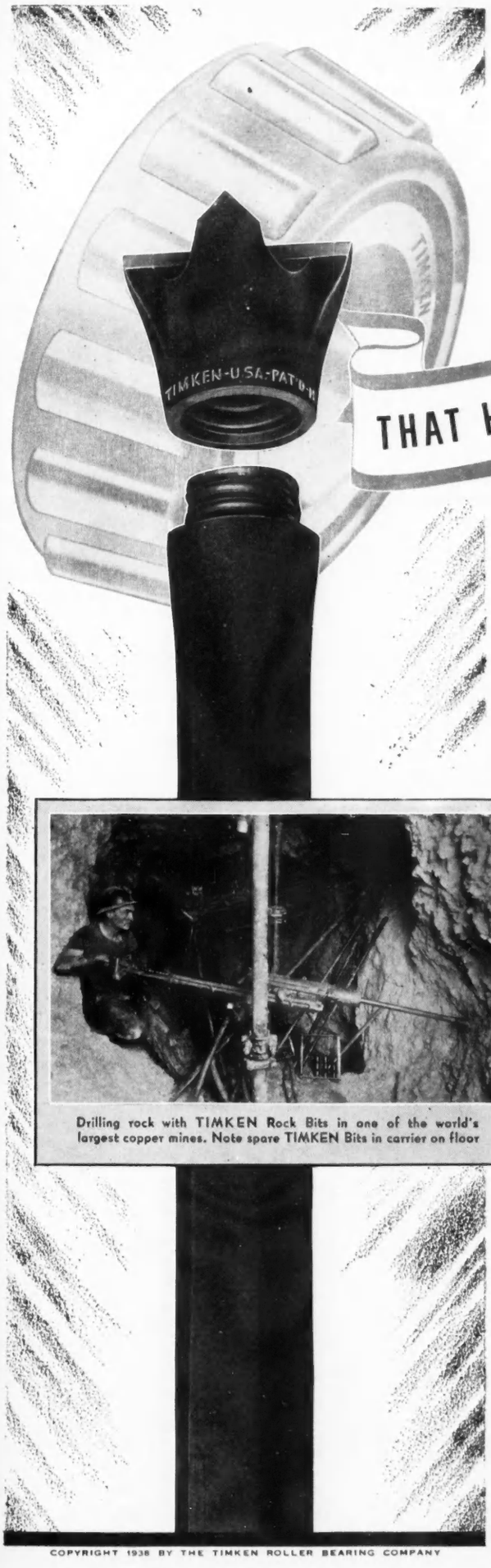
The addition of a major field in the Los Angeles Basin-Wilmington and discovery of a small cluster of fields in the San Joaquin Valley were enough to serve notice that California will be able to meet its oil requirements for some time to come. The alarmists were quieted and the possibility of an oil shortage was dismissed. When considered on a district-by-district or field-by-field basis, California oil reserves seem adequate for the moment.

Any producing district that has been 100 percent prospected can not possibly yield additional discoveries. Not one productive area in California has been fully prospected, and additional oil discoveries should be expected in every district. Three years ago such fields as Wilmington, El Segundo and Santa Maria Valley were not considered as remote potential reserves. The new fields of the future will cause the same surprise and excitement that accompanied recent discoveries. Geologists have been unable in the past to place adequate values on undiscovered reserves. Long Beach, Kettleman Hills and other large California fields should have been discovered years ahead of their actual discovery dates. Surface evidence was abundant, but operators and geologists were assailed by doubts and prejudices that retarded discovery progress.

The current drilling and leasing campaigns should be largely attributed to the influence of recent oil discoveries. Necessity forced development that brought about the discoveries, and the discoveries themselves generated a momentum that is still carrying through in the form of a steady drilling program. Thus California during the past three years has been changed from a dull, listless district to one of the most active in the United States. The unprospected portion of the most promising areas is large enough to guarantee a fair percentage of discoveries. Improved prospecting methods also have added to interest in every sector that seems in line for additional discoveries.

High Discovery Rate

The ratio of discoveries to dry holes has been higher during the past two years than before, and this decline in the failure rate has encouraged wildcatting in the most promising sections. Regions showing a high mortality or failure rate continue to be shunned by many operators. The discovery rate in the San Joaquin Valley has been especially high. This area probably is the least prospected of all the producing districts in the state and offers opportunities at various levels. An increase in the discovery rate usually guar-



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antees a representative drilling program in the affected areas.

California's reserve and development reversal has been achieved in dramatic fashion. Record producing and drilling depths, new sand strata, improved exploratory tactics, and advanced drilling methods have placed a new valuation on all partially prospected areas. Reserves have virtually come from "nowhere" to fill deficits, the approach two years ago of the potential to actual production having started a wildcatting campaign that brought results. New fields will be found, and apparently California will meet all of its petroleum requirements for several years.

The Los Angeles Basin has yielded one surprise after another for 18 years. The San Joaquin Valley is a dozen times as extensive, and almost as promising per square mile. Important discoveries are possible in every favorable area, but they may not occur within the current discovery cycle.

Increase in Reserves

Recent discoveries have revealed California as a reserve of increasing rather than diminishing importance. After each surprise addition to reserves, a close geological examination of the area invariably leads to the conclusion that the field should have been found before. Such a conclusion is not fair to the geologist, however, since any achievement seems easy after it has been recorded. The larger oil companies have assumed a more liberal attitude toward the possibility of discoveries that would have been held impossible a few years ago. Failure of major companies to recognize the significance of past discoveries has proved a very expensive negligence. An analysis of recent leasing operations reveals an interesting change of heart on the part of many operators.

San Joaquin Valley

The great San Joaquin Valley now holds the center of interest from a future development standpoint. This potentially rich district is at least 125 miles long, averages about 50 miles in width, and includes about 4,000,000 acres. The valley is considerably longer, but the extreme upper end is not held with much favor by operators who are most familiar with the northern portion. The greatest thickness of probable oil-bearing formations is in the south end. The discovery of four new fields in one small portion of the valley lends an encouraging note to development over a 3,000,000-acre district.

Discoveries in the bed of the San Joaquin Valley would have come sooner, had there been a distressing need for greater oil reserves. The group of new fields opened in one small section and in an area that showed few surface contrasts proved the claim of selected geologists that the next great development program would center in the bed of the valley. The entire history of California development is colored with weak decisions that postponed important discoveries, but similar blunders have been observed in all producing states. The discovery of new oil fields in the bed of the San Joaquin Valley has been a difficult and technical task, and only good reasoning and heavy drilling risks have brought results.

The recent deep discovery at Wasco was a significant development from geological, reserve, and engineering standpoints. The opening of a good producing formation below 13,000 feet reflects the possibilities of formations formerly regarded as excessively deep. Several strata between 13,000 and 15,000 feet showed oil, and there are many reasons to indicate that formations below 15,000 feet will prove productive in many districts.

The San Joaquin and Sacramento valleys are similar in surface appearance, and from an elevation standpoint might be classed as a single valley. The formations below the surface, however, are almost entirely different, except for a fairly uniform layer of Eocene that is common to both valleys. The Miocene-Pliocene formations are thickest near the south end of the San Joaquin Valley, the depth to the Eocene at the maximum thickness being about 18,000 feet. These formations thin northward until they become negligible in the Sacramento Valley. The greatest thickness of Cretaceous is near Sacramento, and as much as 30,000 feet of this horizon is present below the Eocene. The thinning tendency of the Cretaceous is exactly opposite that of the Miocene, this horizon thinning southward from a point near Sacramento to become negligible or absent at the point of greatest thickness of the Miocene-Pliocene opposite Wheeler Ridge. It is because of the thinning tendency of the Miocene-Pliocene that the extreme upper end of the San Joaquin Valley proper is not held in as high favor as the south end.

The thickness of the Cretaceous is so great in the Sacramento Valley that it has been impossible to reach the most promising levels of this horizon. Little prospecting has been done, however, and potentially this area is held in high regard by a few geologists. The Cretaceous yielded gas in the first representative tests, and it no longer is held as hopeless.

Los Angeles Basin

Valley and basin development in California has been identical in every major producing area that holds both fringe and valley-bed production. Prior to 1920 the Los Angeles Basin was considered productive of oil only along the hilly fringes. Even the almost straight row of hills between Beverly Hills and Newport failed to attract a strong following. The discovery of one field after another in the basin proper proved the error of the original theory. Now all of the Los Angeles Basin is recognized as possible oil-producing territory, but it is not intended to convey the thought that eventually all of the area will be productive. The unprospected portions of the basin hold distinct possibilities. Less than three years ago the Los Angeles Basin was estimated to have been 85 percent prospected. Recent discoveries indicated that the estimated prospected percentage was too high. This comparatively small basin has been alternately combed and condemned, but following each "sour" period an unexpected discovery has been recorded. The wedging in of the Playa del Rey, El Segundo and Wilmington fields has demonstrated the fallacy of condemning an area as fully prospected.

Surface contrasts and evidence have been the chief contributing factors leading to Los Angeles Basin discoveries. The flat and largely unprospected area between Inglewood and Santa Ana holds more than remote possibilities, while the various nooks and corners in the basin may yield additional surprises. Seal Beach and Playa del Rey are examples of fields that lie below a surface that gives no indication of a structural tendency. It is becoming increasingly difficult and expensive to find new fields in the Los Angeles Basin, but need for additional reserves in the future will force an exploratory campaign that may develop an important trend play at surprising depths.

Use of Geophysics

Discoveries of the past three years have forced full recognition of geophysics, and all of the larger operators have in one way or another improved their exploratory technique along this line of attack.The reflection seismograph has been very prominent in the change in reserve status in California. At least two major op-

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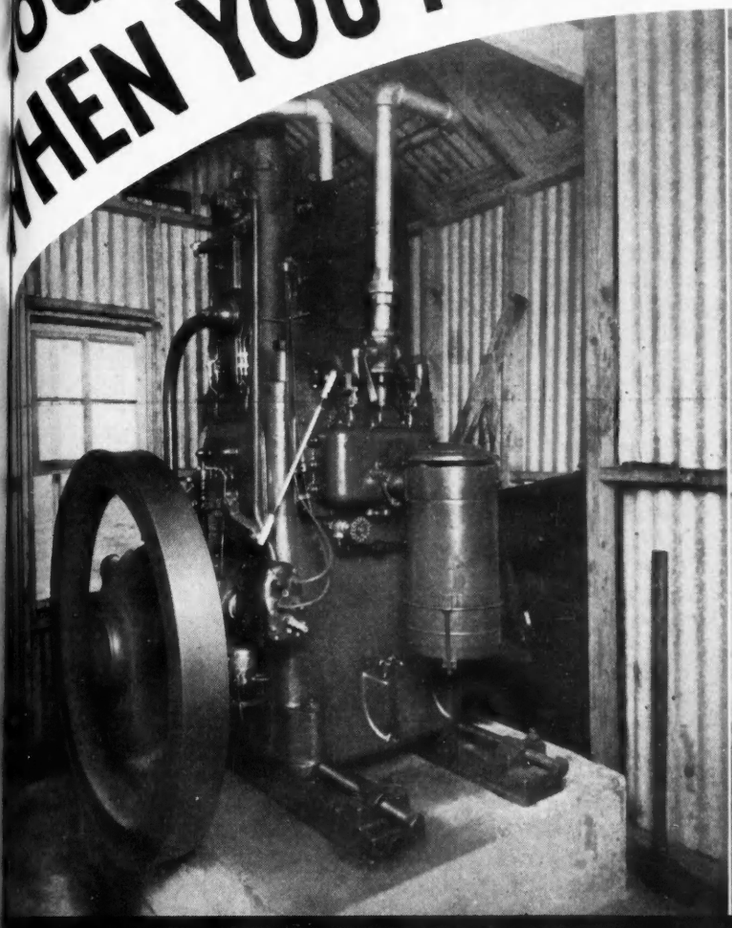
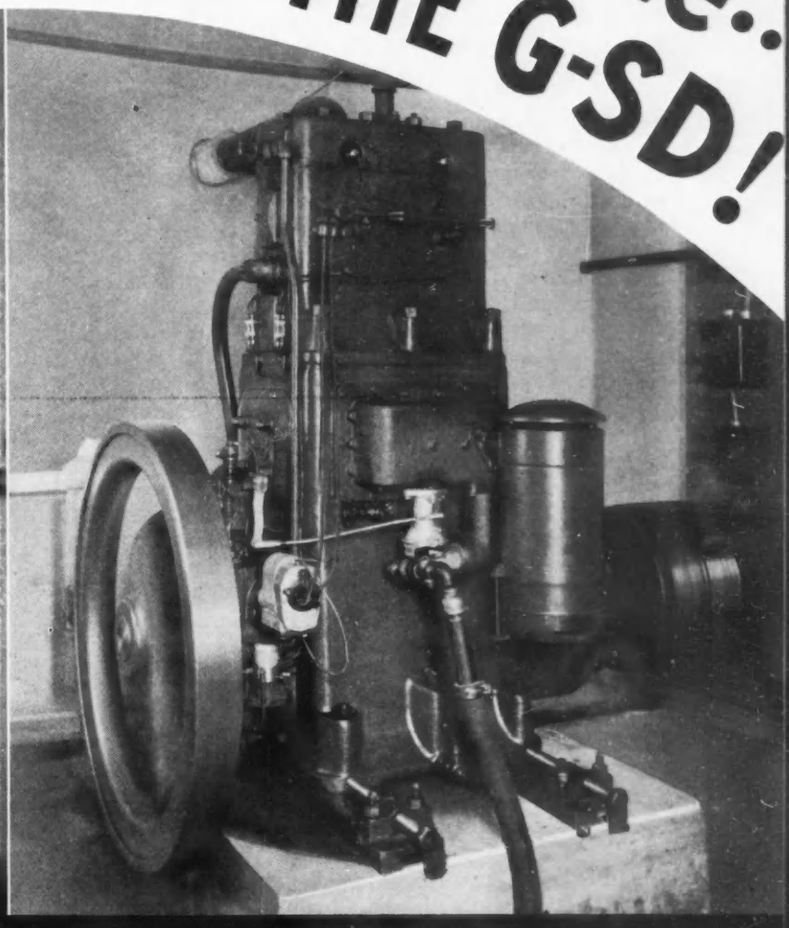


CLEMVILLE, TEX. — 40-horse Type G-SD gas engine pumping oil for Harrison & Abercrombie.



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Exterior of Harrison & Abercrombie Clemville, Texas, station.

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erators that were on the verge of discarding geophysics as worthless two years ago are now ardent admirers of the science. The use of geophysical prospecting methods failed to bring results for five or six years. Operators finally discovered that the fault did not lie with geophysics, but with the operators themselves. The outright failure to show results should have been charged to improper application of geophysics and weak interpretation of data.

Use of the reflection seismograph is much more difficult in California than along the Gulf Coast. Formations are not uniform, faulting is confusing, and the thickening and thinning tendency of strata is difficult to interpret. Correction and interpretive factors have been developed, however, and it has become possible to identify a structure when it is indicated by seismograph. The absence of satisfactory reflection beds in all flat areas has been the chief obstacle.

Early shooting methods brought confusion, rather than desired results. The major move toward correcting the original method was the adoption of a closer shooting schedule. The original shooting was done in straight lines across a given area, but operators discovered that they had been drawing the parallel lines too far apart and also had been placing the shots at excessive intervals. A closer shooting plan, both from a parallel line and shot-interval standpoint, brought surprising results. It is not possible in the flat San Joaquin Valley to shoot in wide lines, such as is done in preliminary work along the Gulf Coast.

The adaptation of geophysics to the flat and unexplored California valleys has changed the future outlook for several million acres. It is interesting to note that all of the recent deep geophysical discoveries in the bed of the San Joaquin Valley have been in a district that was feebly prospected by a hit-and-miss drilling method that failed to yield a single discovery of like nature. The greater part of the great valley is strictly a geophysics play.

The continuous reflection method of shooting places the shots at close intervals and gives a continuous picture of the subsurface reflecting beds along each parallel line. The lines are drawn closely enough to overlap the reflections and give a complete picture of the area. A study of present shooting data and comparison with the data of four years ago reveals the reasons for the early failures.

About 15 structures were found and mapped in a short time in the San Joaquin Valley, and 6 of the first 7 tested with the drill yielded oil or gas. Such a discovery record so far surpassed the old hit-and-miss method used in the valley that no comparison could be made. In every case where the structure was detailed with seismograph before drilling operations started, the first well drilled resulted in a new field. This record far surpassed that recorded in areas that depended on outcrops and surface contrasts for first well locations.

About 35 seismograph parties are kept busy in California. A limited number of the crews have been detailing structures previously found, but by far the larger number of parties are engaged in outright exploratory work. This reconnaissance work has been extended to every large structural valley or basin that offers a chance for commercial production in recognized formations.

The rapid-fire order of discovery of such fields as Greeley, Ten Section, Rio Bravo, Arvin and Canal has greatly increased geophysical activity in all parts of the San Joaquin Valley. Important seismograph work was done in the Wilmington and Santa Maria Valley fields, but they are not classed as pure geophysical discoveries.

The chief obstacle confronting the seismograph in California is the differentiation between shales and sands. This difficulty gives some trouble in classification of formations during preliminary work ahead of the drill. The best reflections from the explosion of dynamite are received from points of variation in formation, rather than from a definite formation. Changes in density and lithology offer the best reflecting medium in several districts, where the common surface between sand and shale presumably reflects nearly the same percentage of sound waves reaching it. An unusual reflection of energy usually indicates a stratigraphic change, but the nature of the formation is difficult to determine ahead of drilling operations.

Overproduction

An analysis of various producing districts and fields places the state in a satisfactory reserve position, but as the current townlot diminishes the danger of overproduction will decrease. Overproduction in California always has accompanied the discovery of adequate or excessive reserves, and the present tendency toward an excessive daily output reflects that condition again.

Of the eight recent discoveries, at least four areas are first class fields and two more may fall in the upper bracket. One field is a good second class area and another probably is a third rate producer. Such a number of first class fields gives a tremendous boost to faltering oil reserves and places two districts in line for both prospecting and drilling operations.

Santa Maria Valley, Ten Section, Greeley and Wilmington should be classed as first class fields. Santa Maria Valley is a second edition of the East Texas field, but obviously will be much smaller. The oil accumulation is along a flat shoreline structure that was overlooked during early Santa Maria development. Ten Section and Greeley are major fields, and Rio Bravo and Canal may climb in classification after they leave the one-well class. Wilmington has increased in importance with development and will be an important field for several years.

Kettleman Hills probably has been overrated as a Temblor zone producer, but it is a great oil reserve nevertheless. The new deep production in this field, probably Eocene, has placed a new valuation on all leases, and in addition shows evidences of underlying a much greater area than the Temblor. The deeper productive zone will be a much thinner formation than the main producing formation. It is estimated that the deeper zone has added around 20 percent to Kettleman Hills reserves. Development costs will be high but not prohibitive.

The recovery of oil during the middle and late stages of development at Kettleman Hills will be a serious problem. Operators are attempting to develop a plan for recovering the oil after natural flow ceases. Pumping will be attempted, but the success of such operations on a big scale is in doubt. Gas lifts of various types are being used, some in an experimental manner. The second 50 percent of recoverable oil at Kettleman Hills will be produced with considerable effort.

The district of outstanding interest is the San Joaquin Valley. Its great area and potentialities are enough to support active operations from every type of oil producer. The 15,000 to 18,000-foot thickness of sediments above the Eocene over a large part of the area gives an almost unlimited chance at production. Development in new fields will be conservative, and most of the acreage is held in large blocks. The valley proper has not been more than 20 percent prospected to a critical depth, and with the edge development thrown in, the prospected area probably does not exceed 40 to 60 percent of the grand total.

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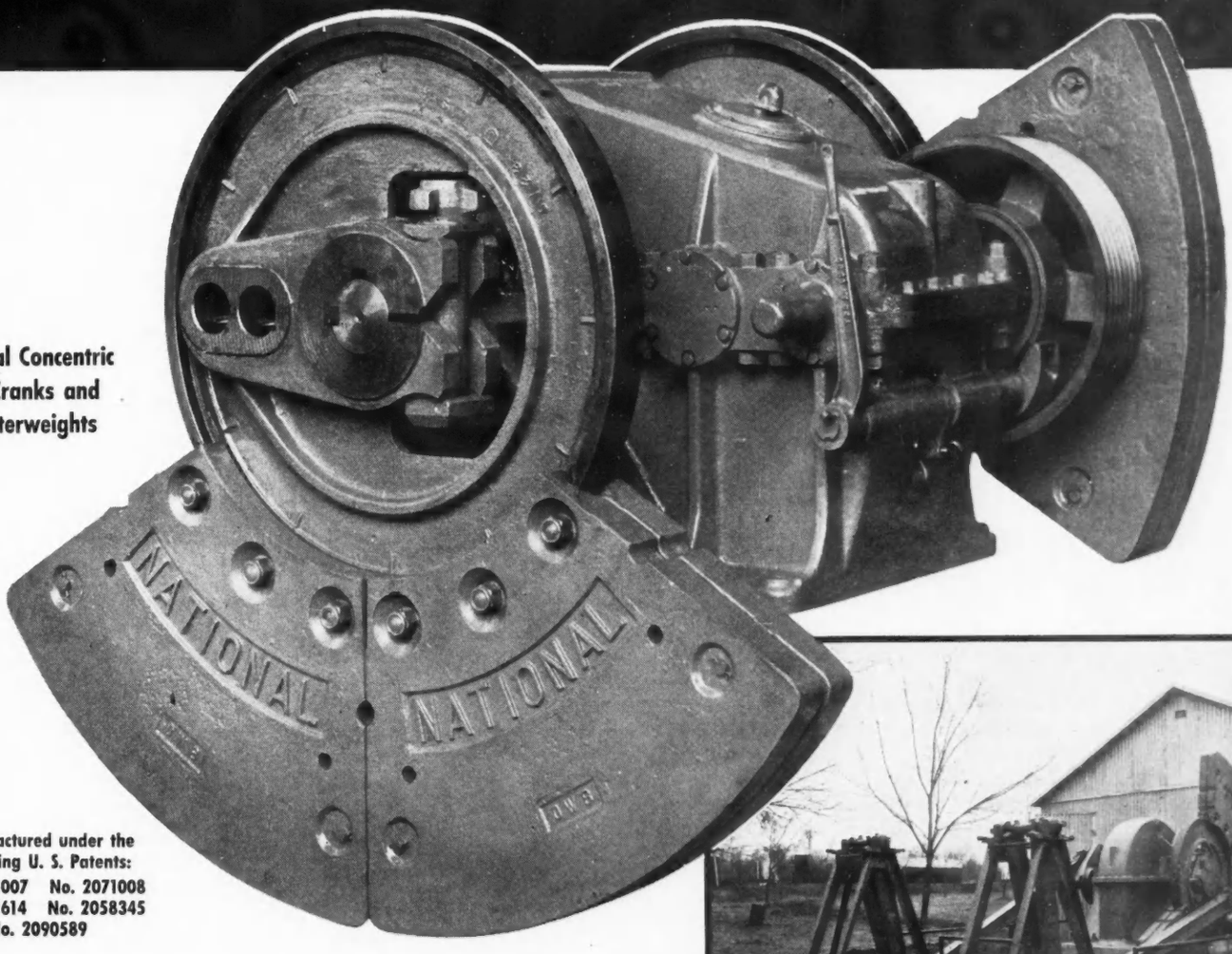

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Vermin Control in Oil Field Earthworks

By M. T. PATE

FORMERLY regarded as merely temporary or short-lived accessories to field and tank farm operation, firewalls now, thanks to proration and greatly increased average field life, are gradually becoming recognized as a part of more or less permanent plant, and are being kept up accordingly.

In the East Texas field, with an average life of seven years for many firewalls, maintenance has added considerably to the expense—average charges for rebuilding slumped walls running up to three or four times the cost of originally throwing up the earthworks. Where this reconditioning is done by pipe line gangs, the labor cost, unless camouflaged on other job tickets, soon mounts up to the point where it reflects on management of the oil field properties.

In a survey which covered much of the East Texas field, over 80 percent of the firewalls found damaged through slumping or sloughing of wall sections could be definitely traced to the activities of rodents or vermin—gophers or "salamanders," moles, and rats. Of the remaining 20 percent, faulty construction, involving surface water runoff at or near the toe of the embankment, accounted for most of the trouble.

Types of Firewalls

Two principal types of firewalls are found in the field, one composed of oil-saturated earth, carefully mixed and tempered to give maximum adhesion. This type is satisfactory for small lease tank batteries, but if used for protection of larger 55's or 80's, involves the use of large quantities of oiled soil, which in the larger masses tends to slump under its own weight, and is hard to keep in place, and will slough badly in heavy rains.

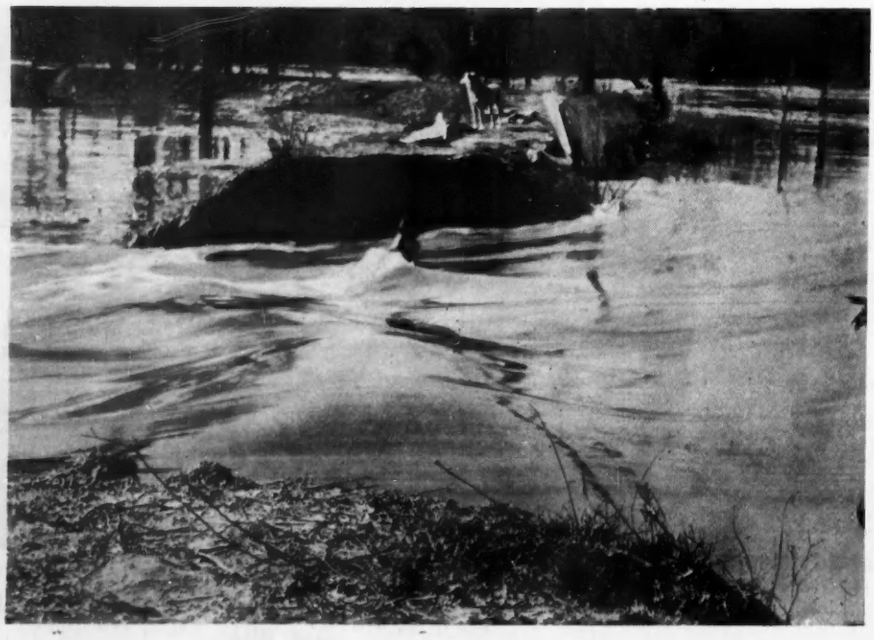
The second type of firewall is that built of untreated soil, grass-covered to give the material resistance to washing during rainy weather. This sodding, usually employing Bermuda grass, results in an outer layer from 8 to 12 inches thick being fairly well knit together with grass roots. Such a dike, even when composed of the loose, sandy soil which covers most of the East Texas field, will hold level full of water for extended periods without seeping or washing out—if not riddled by vermin.

Overrun With Rodents

Unfortunately for the oil companies, East Texas is overrun with moles and the pocket gophers—locally known as "salamanders," both of which tend to colonize a firewall, seeking out the elevated ground on account of the improved drainage afforded their burrows. Of course, the mole is less destructive, confining his runs generally to a depth below the surface of but 3 or 4 inches; this being the amount of overhead cover he can lift during his burrowing. Only when forming central dens or nests does the mole depart from this usual practice, some of the cavities being opened in firewalls being 15 to 18 inches in diameter, and situated as much as 3 feet below the surface.

The gopher, on the other hand, is strictly a tunnel builder, carrying his bore at depths of 8 to 16 inches below the surface, and removing the spoil in the form of the characteristic "dumps" which dot the surface of the field wherein he is working, and which by their alignment, clearly indicate the direction the rodent is working. Like the mole, the gopher is apt to select the firewall as site for his storerooms and next chambers, he also digs cavities of surprising size and extent within the apparently sound fill.

Even such temporary earthworks



This levee, never topped by the flood waters, gave way under internal erosion through channels provided by honeycombing gopher runs, two of the characteristic mounds being visible at the edge of the caved section.

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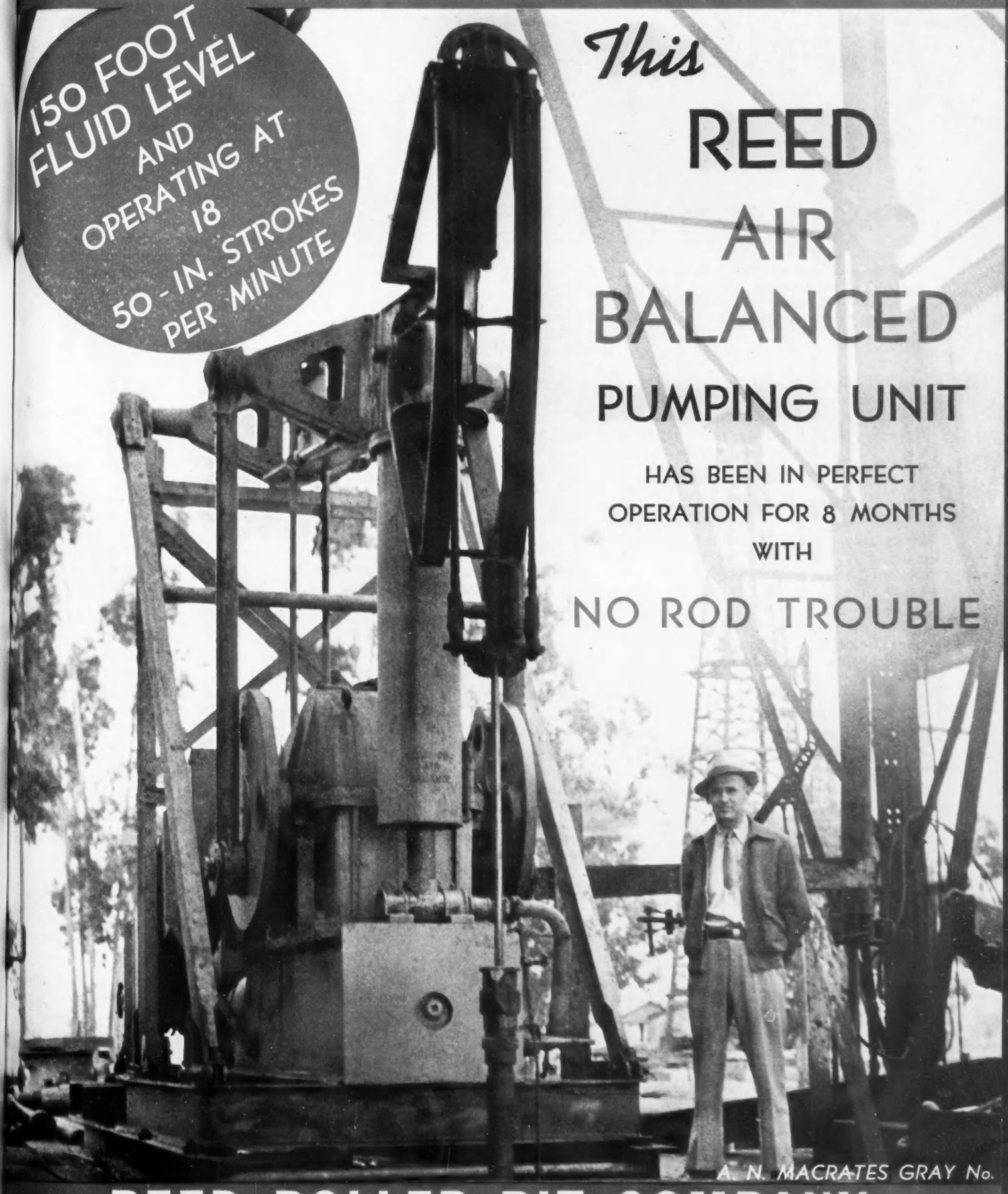

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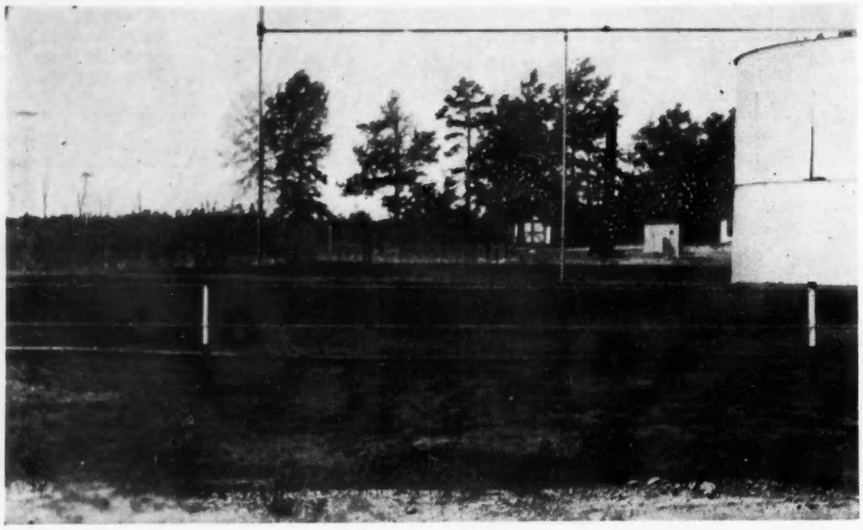

Oiled firewall and wide level firebreak discourages vermin, but are of little resistance to washing rains, requiring frequent rebuilding from this cause.

●

as slush pits are attacked by gophers, one derrickman in the Rodessa field having shot 17 of the animals around the slush pit and water storage dam during the fourth day after drilling was commenced.

Mole Control

Mole control is of two kinds: preventive and ridding. Since the mole is primarily insectivorous, living from choice on a diet of worms, grubs and larvae, it is difficult to control them by poisoning, prepared grain being eaten only in times of severe drouth when the normal sources of food are closed to them. Trapping is effective, and when combined with some sort of barrier to prevent reinfestation, will soon clear out the moles already on hand.

The gopher, due to his burrowing habits, is difficult to trap, and can be reached with firearms only when engaged in throwing up one of the "borrow" mounds. In a number of instances, oil companies have greatly reduced the number of such pests by covering the ground around the tank farm with a light truck, carrying a 6- or 8-foot length of flexible metallic hose of a size to clamp tightly on the truck exhaust. By digging into a run near one of the fresh mounds, and burying the end of the exhaust hose in the tunnel, it is possible to so fill the burrow with carbon monoxide gas that all gophers within a radius of 20 or 30 feet are gassed. This area is greatly extended if this work is done while the ground is still wet from a rain, as the wet ground holds the gas much better than a dry soil, and the zone of gas effect is thus enlarged.

Poison

Poisoning of the gopher is also effective, grain treated with poison being procurable in many cases through local county agents, or on application to them through other county authorities. Where this poisoned grain is not available (it usually being sold to users at cost) it can be made up with any small size grain, such as maize, kaffir corn or sorghum, treated with strychnine alkaloid. An even more effective method of conveying the poison is to cut sweet potatoes into strips a quarter of an inch square and an inch or more in length, dusting them with the same poison and inserting them into the burrows through holes pierced with a short piece of half-inch pipe. These poison openings should preferably be made at a point usually a foot from the mound thrown up by the animal, measuring from the crest of the mound and measuring toward the inside of the arc in which it is usually built.

Whichever type of poison carrier is used, care should be exercised to cover the opening into the burrow, as the gopher will only bury the bait if light shows around it. Care should be taken in handling the poison to prevent it being picked up by dogs or live stock, and the man spreading it should exercise caution in handling and in removing all traces of the poison at the end of the job.

Once controlled at the site of a firewall, vermin can be kept away by any treatment which will drive away or kill the source of food supply—roots in the case of gophers, insect life for moles.

Fortunately, one remedy is effective for both cases: sterilization of the soil. Means adopted by some oil companies for fire protection also work out to kill vegetation in the soil and, when so doing, also prevent the spread of the insect life which attracts moles. These fire bands around tanks are usually composed of dragged and oiled strips, 20 feet or more in width. The same result is secured by one producer, located mostly on the western side of the field, who uses salt water produced from his wells to sprinkle a well-worked strip around the tanks, this salt earth also killing vegetation and baking to form a hard crust which serves as deterrent to vermin.

Protection

Both erosion of the firewall and deterioration through vermin infestation is obtained by a combination of sodded firewalls, kept free of gophers and moles by a wide oiled or salt strip around it; the grass serving to bind the wall, the strip to halt vermin before reaching the softer earth of the fill. With such a combination, it is common to see where mole runs have penetrated under the crust for a lateral distance of perhaps two feet, then turning and working outward to softer digging again. If the protective band be 20 feet wide or more, it is enough to deter the burrowing gopher, who comes to the surface at intervals of 5 to 8 feet for his mounds of earth, and who, if blocked from disposing of his waste earth, will discontinue the run before reaching the unprotected soil of the firewall.

Considerable damage to earthworks in the East Texas field through flood erosion has been initiated or largely caused by gopher and mole runs which permitted the penetration of water into otherwise sound structures. One levee which went out was washed away while the flood water was still more than two feet below the crest, observers reporting that small trickles first appeared on the downstream side of the dam, followed by jets as large as though carried by buried pipes or hose lines.

One company, suffering extensive loss of firewalls and protective dikes through gopher and mole damage, tried the bounty system for any animals trapped or killed and turned in to the warehouseman—but had to withdraw offers when it appeared that most of the bounty put out went for vermin caught off company property. In common with many others, it is now trapping or poisoning for rodents already in the firewall area, and laying down wide sterilization bands around all grass-protected walls.

Well-Depth Measurements

By C. E. REISTLE, JR. and S. T. SIKES, JR.,
Humble Oil & Refining Company,
Houston, Texas

THE study of well-depth measurement involves three fundamental problems:

1. The selection of some standard method of measuring vertical distance below the earth's surface that would be accurate and reliable.

2. The most accurate method of measuring tubular goods into wells, and correlation of this method with the standard method of depth measurement.

3. The correlation and relative accuracy of special measuring devices employed in the measurement of well depth.

Well depths cannot be measured by any procedure wherein all errors may be determined and corrected; therefore, some acceptable substitute for absolute depth must be used. It is apparent that, for correlation of formations and the selective completion of wells, relative depths which may be accurately reproduced are as satisfactory as absolute depths. Of more importance is the ability accurately to locate at will any sub-surface point in the well, using drill pipe, sand line, special measuring devices, casing or tubing.

This paper was presented at Eighth Mid-Year Meeting, American Petroleum Institute, Allis Hotel, Wichita, Kansas, May 25, 1938.

The statements and opinions expressed herein are those of the authors, and should not be construed as an official action or opinion of the Institute nor of this publication.

THE importance of well-depth measurement has been emphasized by the difficulties encountered in successfully completing oil wells where relatively thin oil-producing sections are encountered in intimate contact with gas and water sands, especially at the increasingly greater depths now drilled. It is the purpose of this report to discuss the methods and equipment used in measuring depths, the errors arising from the different practices, and to consider recommendations for standardizing the technique of measuring well depths.

History of the Investigation

It was realized at the outset that the practices observed in measuring well depths varied between sections of the country, between the various companies, and even between districts in a given company. To become acquainted better with the procedure involved, questionnaires were sent to members of the Committee on Drilling Practice, with splendid response—replies having been received from 18 companies engaged in the drilling of oil wells. Three companies rendering services requiring the use of special measuring devices also submitted replies to that part of the questionnaire pertaining to their work. With such material as a background, a preliminary report was made to the Institute's Committee on Drilling Practice at the November, 1937 meeting in Chicago, and was later made available to other drilling operators and technical bodies. The criticisms and discussions gained from these contacts are embodied in this paper.

Problems of Well-Depth Measurement

The study of well-depth measurement involves three fundamental problems:

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3. The correlation and relative accuracy of special measuring devices employed in the measurement of well depth.

Well depths cannot be measured by any procedure wherein all errors may be determined and corrected, for reasons that will be discussed later; therefore, some acceptable substitute for absolute depth must be used. It is apparent that, for correlation of formations and the selective completion of wells, relative depths which may be accurately reproduced are as satisfactory as absolute depths. Of more importance is the ability accurately to locate at will any subsurface point in the well, using drill pipe, sand line, special measuring devices, casing or tubing.

In the selection of any standard method to be employed in measuring vertical distance, there remains a limit as to the accuracy that may be expected. In

FIGURE 1
Measuring Pipe Standing in Derrick
Holding end of tape flush with top of tool-joint box

measuring horizontal distance, certain base lines established by the U. S. Coast and Geodetic Survey have been measured with a probable error of about $\frac{1}{2,000,000}$. Such precision involves correction for temperature, pull on the chain, and other possible errors. The usual precision required in good surveying practice is $\frac{1}{5,000}$, which requireh considerable skill and judgment on the part of a capable, experienced surveying crew.

Present Practices as Indicated by Answers to Questionnaire

Bearing in mind the choice of a suitable method of measurement and the probable limit of accuracy obtainable in vertical measurement, the questionnaires were examined, and the following typical procedures were noted.

Current practice in rotary drilling is to use drill pipe as a medium for determining the depth—measuring the length of each joint from the top of the tool-joint box to the shoulder on the tool-joint pin on the other end as the joint is picked up from the pipe rack, before being added to the drill string. The length of the drill pipe is checked at important points (such as the coring depth, intended casing seat, or total depth) by measuring the pipe while standing in the derrick (illustrated in Figures 1 and 2). As a further check, steel measuring lines are run inside the drill pipe while in the hole—some operators using the steel-line measurement in preference to the drill-pipe measurement, if there is an appreciable difference. Only two companies answering the questionnaire indicated that corrections were made for stretch in the drill pipe due to the weight of the string, either by measuring the joint or stand while hanging from the elevators and supporting the entire weight of the string, or by adding corrections for stretch as shown in Figure 3.[1] None of the companies answering the questionnaire attempts to correct for temperature of the pipe when pulled from the hole. Ordinarily, records are kept of drill-pipe measurement in a special notebook on each rig—the driller being held responsible for the posting of the length of each joint of pipe as it is added to the drill string, and of each stand as it is checked while racked in the derrick. In most instances, the drilling crews measure the pipe unassisted and without supervision—although a few companies, especially drilling contractors, have measurements at important depths supervised by a tool-pusher or engineer. Nearly all companies have a tool-pusher or engineer make drill-pipe measurements where the nature of the job necessitates an accurate determination of depth.

In measuring threaded and collared pipe, both casing and tubing, the procedure most generally employed is to measure the length of each joint from the top of the collar to the top of the thread at the other end while it is on the pipe rack outside the derrick, and to record the results on a special form—sometimes printed on the back of the daily drilling report. The amount of pipe measured into the hole is checked against the amount of pipe delivered to the location independently measured by the warehouse personnel. Corrections for stretch due to weight of the pipe are made only by those companies making the same corrections for depth as determined with drill pipe. It was observed that no attempts have been made to correct for thermal expansion. Sixteen out of eighteen companies replying to the questionnaire do not rely upon the drilling crews to meas-

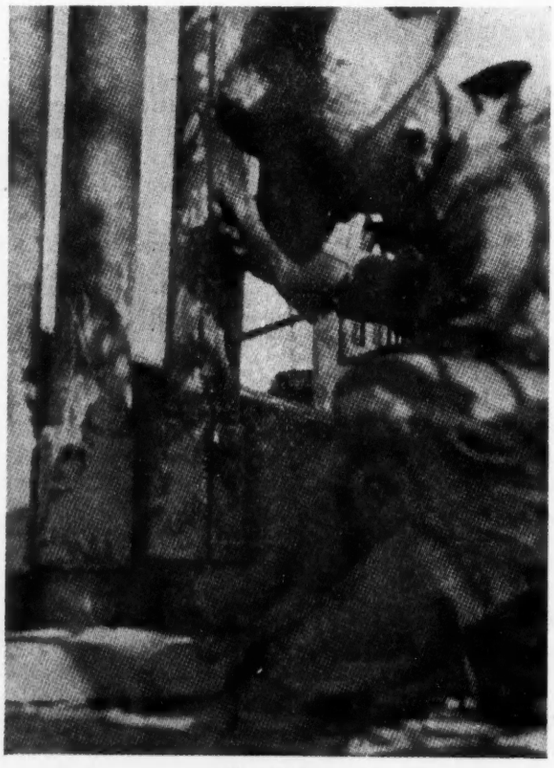
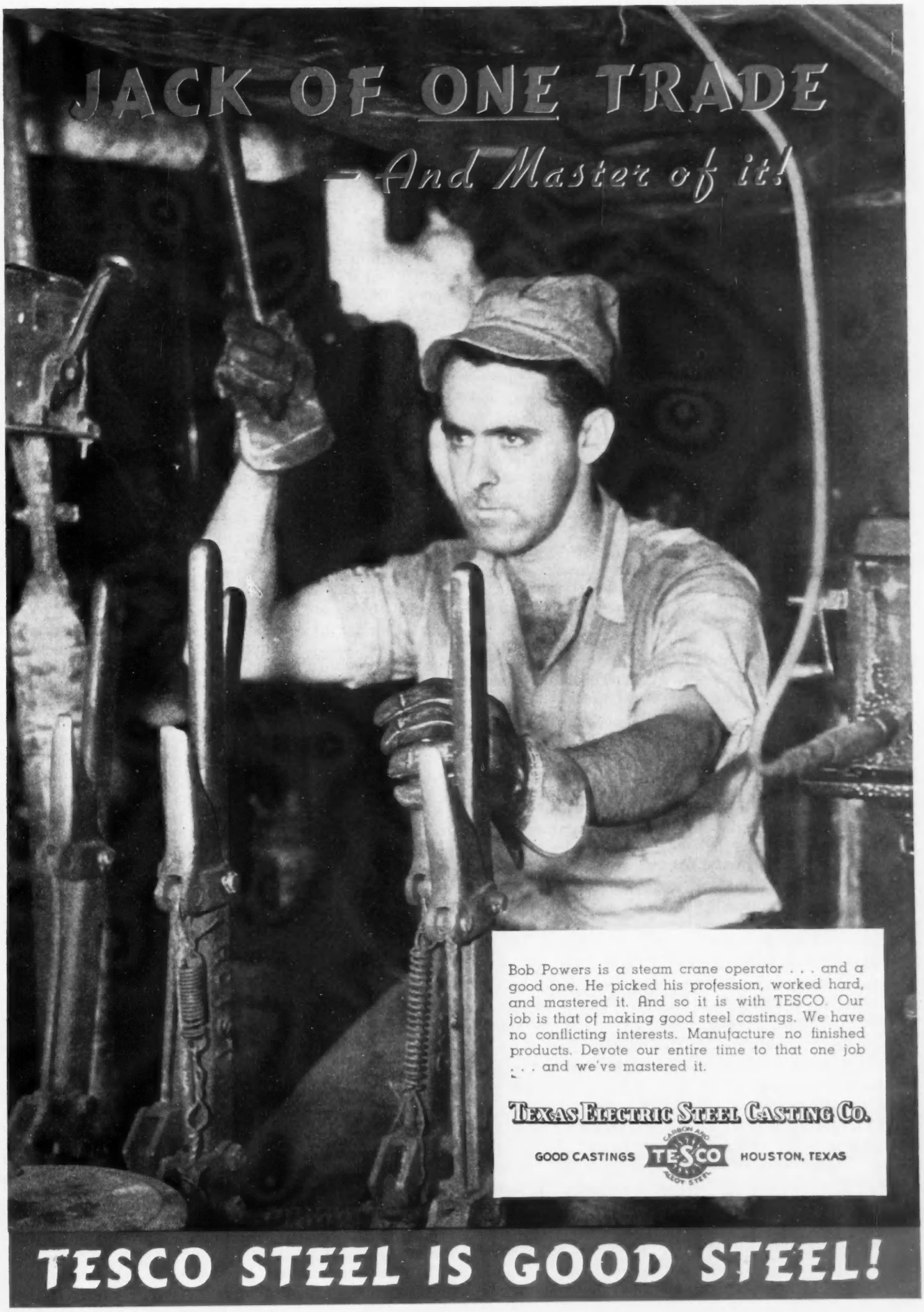


FIGURE 2
Measuring Pipe Standing in Derrick
Reading measurement at bottom shoulder of tool-joint pin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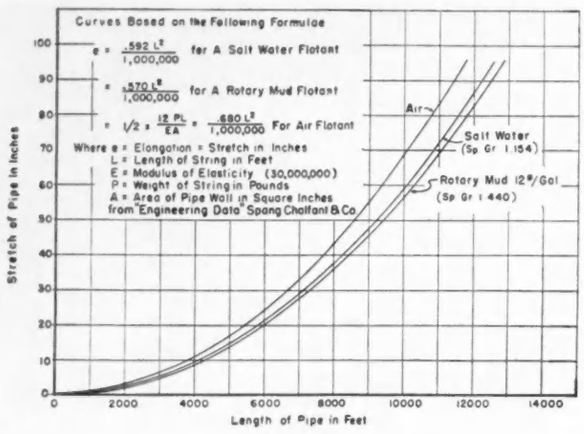


FIGURE 3
Stretch of Casing, Tubing, or Drill Pipe Suspended Freely in Various Flotants without Float Plug.
Note: These curves are for uniform strings

ure casing for oil strings, but require such work to be done by engineers or tool-pushers.

In the case of welded casing, the tendency is toward measuring only the over-all length, correcting mathematically for overlap of bell or slip joints—the overlap being considered as approximately constant for a given size and type of pipe.

Less care is given to the measurement of tubing than of threaded and coupled casing for oil strings, most companies leaving the responsibility to the drilling crew. As for casing, the length recorded is from the top of the collar to the top of the thread at the other end. Measurement is made either by singles on the pipe rack or by stands in the derrick. Those companies using tubing for drilling, even for short cement plugs, express a necessity of re-measuring each round-trip.

In cable-tool drilling, a majority of the operators check depth by measuring the sand line as it is reeled at least once during the drilling of a well. The derrick is "measured over" immediately before it is intended to measure the depth of the well, as the measurement may vary from location to location, even though the same equipment may be used. The "distance over" can be determined in the following manner, using a bailer on the sand line[2]:

a. "Run the bailer into the well a short distance, and tie string on the sand-line level with the surface of the floor, using a straight edge or steel square to determine the correct position.

b. "Tie a strand of rope (target) tightly on the sand line at a position on a level with the top of sand-reel flanges, laying a straight stick on top of the flanges to determine this position.

c. "Lower the bailer into the well until the target is within easy reach from the derrick floor. Attach the end of a steel tape to the sand line at the target. Raise the bailer until another target can be fastened at the end of the tape, and tie another target. Lower the bailer, detach tape, hoist bailer, and set third target. Repeat the operation until it is possible to measure with the tape to the target first set at the floor. The tape must be shorter than the height of the derrick, so that it will not go over the pulley at the crown block.

"When a target is tied to the line, paint should be put on the line above and below the target to show any displacement of the target.

"To measure into the well, after the unit length or 'distance over' is determined, hold the bottom of the bailer dart; when raised level with the surface of the floor, set a target at the top of the flanges of the reel; lower the bailer until the target is level with the floor, and set a second target at the reel. Correct count of the targets is most easily kept by detaching and keeping each one as it reaches the floor."

Only casing seats, markers, producing sands, and other important points are measured with a sand line—intermediate points being located by marking the drilling line. Most cable-tool operators do not rely upon important depths obtained by means of a sand line, but correct their sand-line measurements to agree with results obtained by a steel measuring line.

The tapes used in both rotary and cable-tool work are now predominately steel, and only a few companies still use the old metallic tape (woven linen with metallic warp) with its attendant errors due to excessive stretch when pulled taut. There is a wide variation in size of steel tapes used; and the graduations of feet, tenths and hundredths of a foot, are as common as the more familiar feet, inches, and fractions of an inch. One peculiar discrepancy noted is that those companies using tapes marked in decimal fractions of a foot generally require readings to the nearest one-hundredth of a foot, whereas those using tapes graduated in fractions of an inch seldom require readings closer than a half inch, and some only to the nearest inch.

In the use of special measuring devices, it was found that in approximately one-half the replies to the questionnaire results obtained with steel measuring lines were considered more accurate than those obtained with drill pipe. Only one answer expressed a preference for measurements obtained with an electrical-logging device, and none indicated reliance upon measurements obtained with gun-perforating equipment.

In order to have a better correlation of depth between wells in a given field, it is the common practice to determine for each location the height of the derrick floor above mean sea level, and the distance from the top of the rotary table or kelly bushing to the top of the derrick floor—which information is entered in the well log. Inasmuch as it is customary for the drillers to measure pipe in the hole from either the top of the rotary table or kelly bushing, important depths can later be converted to sub-sea depth. A permanent reference point for future work on the well is commonly obtained by locating the top of the oil-string casinghead in relation to the derrick floor, and recording this measurement in the well logs.

The preceding discussion has covered in general the present practices in measuring well depths. Until the advent of deep drilling, such measurements were considered satisfactory. Now, to obtain maximum benefits from selective completion methods, it is essential that errors in depth measurement be kept at a minimum.

Errors and Their Correction

In plane surveying, analogous to well-depth measurement, the following distinctions are made in the various kinds of errors[3]:

"A *resultant error* in a given quantity is the difference between the measurement and its true value. If the

SHEET No._____

CASING OR DRILL-PIPE RECORD

CASING	
DRILL PIPE	
CHECK IF CASING OR D. P.	

FIELD_____ LEASE_____ WELL No._____

SIZE	O. D.	I. D.	WT.	MAKE	GRADE	TYPE SHOE	O. D.	WT.	LENGTH		DATE	TIME
										CASING STARTED IN		
						TYPE OF FLOAT COLLAR				CASING ON BOTTOM		

Joint No.	Walk Measure		Accumulative Walk Total		Derrick Measure		Accumulative Derrick Total		Joint No.	Walk Measure		Accumulative Walk Total		Derrick Measure		Accumulative Derrick Total	
	Feet	Tenths	Feet	Tenths	Feet	Tenths	Feet	Tenths		Feet	Tenths	Feet	Tenths	Feet	Tenths	Feet	Tenths
TOTAL									TOTAL								
TOTAL									TOTAL								
TOTAL									TOTAL								

(To Include Perforated Measurements, Cement Jobs, Pressures, etc.)

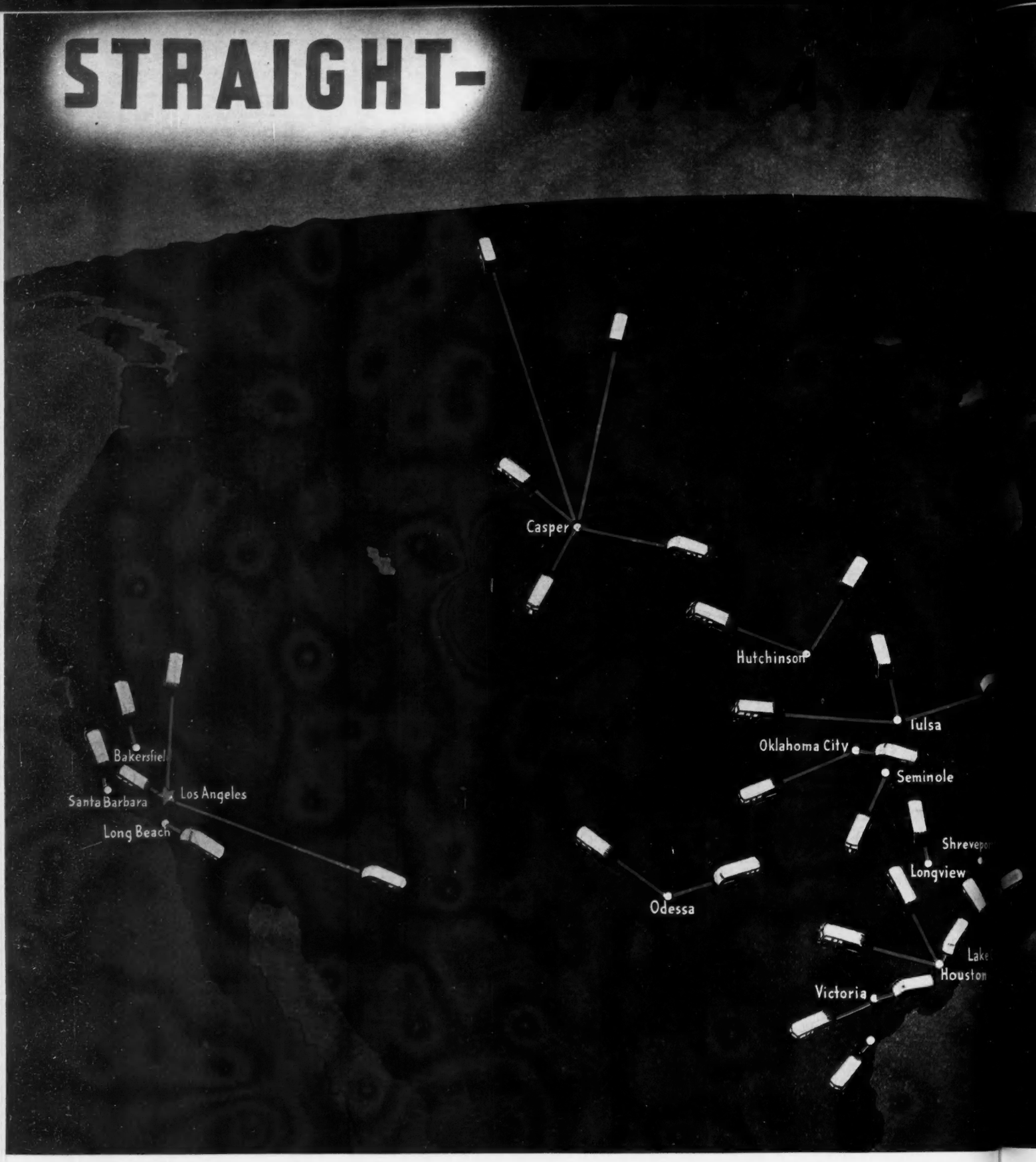
REMARKS:

TOUR	DRILLER	FOREMAN	PETROLEUM ENGINEER
A. M.			
DAY			
P. M.			

NOTE: All measurements in feet and tenths. "Walk measurements for check only"

FIGURE 4

STRAIGHT-



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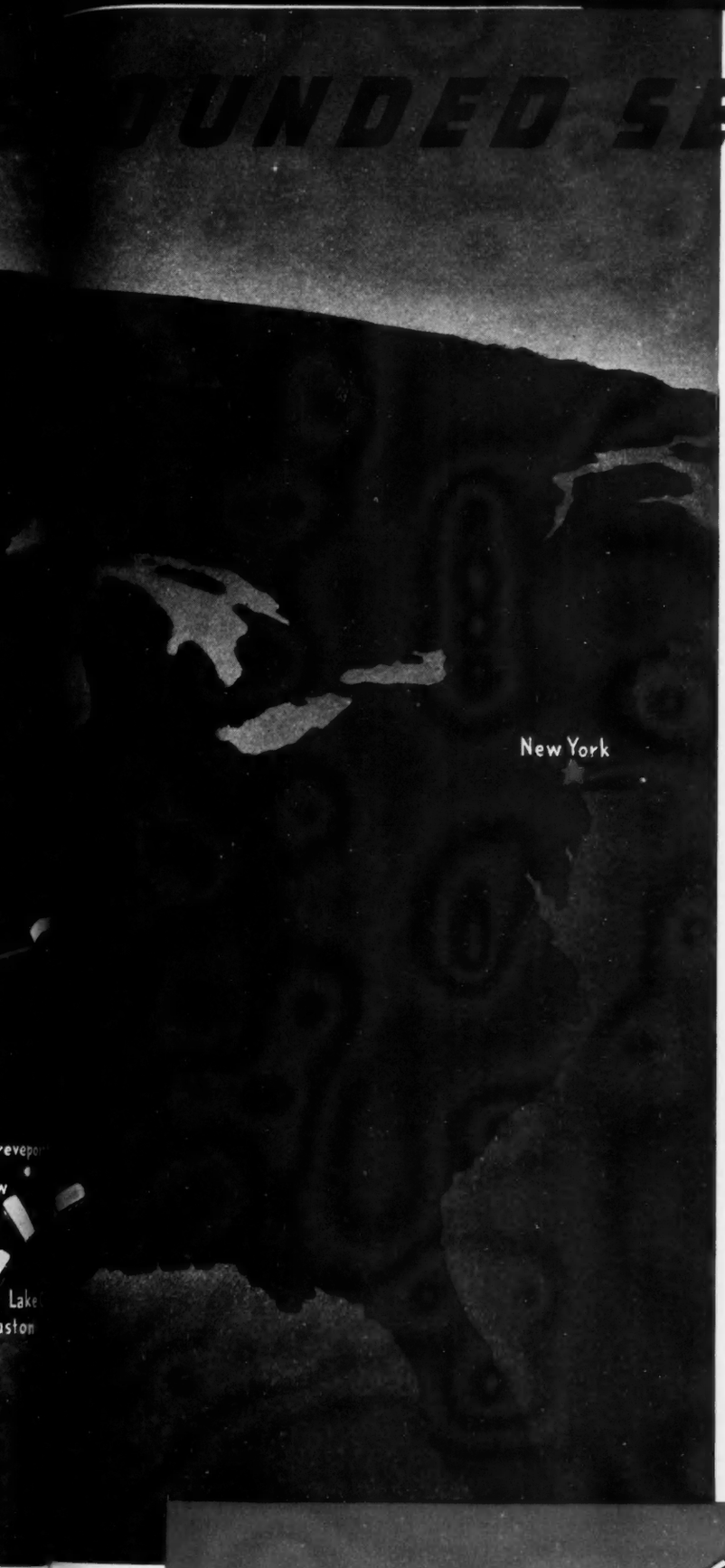

Today, from headquarters located at strategic points throughout the United States, the Lane-Wells organization is offering straight-to-the-job service—a service well-rounded in every phase of drilling and production. Lane-Wells trucks and Lane-Wells crews are ready, day or night, to bring to every operator the services and tools developed, perfected and proved over the past six years of operation.

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PACIFIC COAST—Los Angeles, California • GULF COAST—Houston, Texas • MID-CONTINENT—Oklahoma City, Oklahoma

FIELD BRANCHES
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CALIFORNIA—Bakersfield, Long Beach, Santa Barbara • KANSAS—Hutchinson • WYOMING—Casper

measurement is too large, the error is said to be positive; if too small, the error is said to be negative. The *resultant error* in a measurement is made up of individual errors from a variety of sources—some of the individual errors tending perhaps to make the measurement too large, and others to make it too small. For a single quantity which has been determined by observation, neither the resultant error nor any of its individual parts can ever be determined exactly, but can be fixed within certain probable limits.

"A *systematic error* is an error that, so long as conditions remain unchanged, always has the same magnitude and the same algebraic sign. A change in conditions is always accompanied by a corresponding change in the magnitude of the error. A systematic error always follows some definite mathematical or physical law.

"An *accidental error* is an error that is as likely to be positive as negative. It is due to causes beyond the control of the observer, and does not obey any mathematical or physical law.

"A *constant error* is a systematic error which is always of the same amount and sign.

"A *mistake* is an unintentional error of conduct arising from faulty judgment or confusion in the mind of the observer. It is quite distinct from the mathematical or physical meaning of error."

Tubular Goods

Mistakes on the part of drilling crews are one of the principal sources of inaccuracy in the measurement of pipe for correlation with well depth.[4] The most common mistakes are listed below:

1. *Adding or omitting a full joint or stand.* This seldom occurs with an experienced crew. Probability of such an error may be minimized by measuring the single joints when pulled through the derrick floor, the driller recording the length prior to setting in the rathole or picking up with the elevators. One method of handling measurements has been suggested as follows: Use the door of the derrick as the dividing line, and debit the well with all pipe going through the door, at the same time crediting "pipe on location." These two accounts should balance as in regular bookkeeping, and any new pipe brought to the location would be debited to "pipe on location." The reason for using the door of the derrick instead of the hole for the dividing line is because in the latter case there would be far too many entries. A form such as shown in Figure 4 offers a convenient method of tabulating measurements, permitting accumulative footage to be carried, and allowing a side-by-side comparison of measurements made with pipe in derrick against measurements made on the pipe rack or at the derrick floor.

2. *Wrong point taken as zero.* It should be noted whether this mark is at the end of ring or on the tape itself. If a hook is used on the end of the tape, it is especially important to see that the bottom of the hook lines up with the zero mark. The tape holders shown in Figure 5, and shown in use in Figure 1, were developed to eliminate the necessity of the derrickman having to climb to the top of the stands and, while in an awkward position, hold the zero of the tape flush with the top of the tool-joint box. It should be noted that a holder for a tape with zero mark on the tape itself, with the hook located to compensate for the length of the tape ring, would be in error if held at the angle shown in Figure 1—resulting in the stand being measured too short. For that reason, later tapes have been purchased with a block, as shown for the derrick steel tape in Figure 5, which is hooked over the tool-joint box—the holder now being used only as an extension for the convenience of the derrickman.

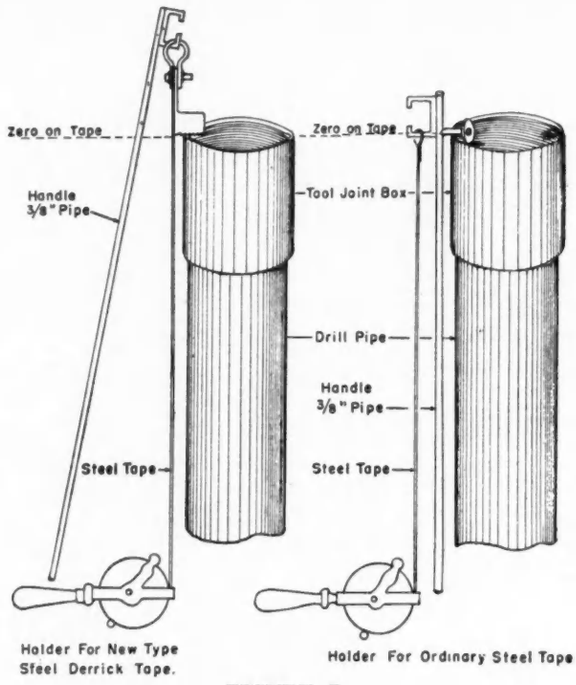


FIGURE 5
Measuring Tape Holders

3. *Reading numbers wrong.* It is good practice to observe the number of footmarks on either side of the one indicating the measurement, especially if the numbers are dirty or worn. The tape should be read by two persons.

4. *Calling numbers incorrectly.* For example, 30.3 might be called 33, and would be recorded as 33, or might be understood as 30 feet. The mistake could be avoided by calling as "thirty point three." When numbers are called, the recorder should repeat them as they are entered in the journal. Whenever a decimal point or zero occurs, it should be indicated by the person calling. In doubtful cases, it is helpful for the recorder to use different wording in answering. One of the two persons reading the tape should watch the recorder write down the figures.

5. *Calling inches, when tape is divided into decimals of a foot.* This can best be avoided by having only one system of graduation for all tapes.

6. *Precision of measurement.* When reading to nearest inch, an inexperienced helper may read consistently to the next higher inch, or the reverse, to the next lower inch. Using two men to read the tape, plus proper instruction and supervision, is the remedy suggested.

The adverse conditions under which most measurements are made—poor light, fatigued crew, bad weather conditions—all combine to emphasize the probability of mistakes. Repeated checking and adequate supervision are the only remedies that can be suggested. Where accurate depth determination is necessary, at least two independent measurements—preferably by different crews—should be made.

[To be continued]

WORLD DEVELOPMENT and TECHNOLOGY

Edited by
WM. V. GROSS, Associate Editor

To Appeal Case

Companies will carry fight for Mexican properties to Supreme Court . . . Production increases sharply

EARLY in the week beginning June 12, oil companies involved in the suit in district court of Mexico City, which June 7 resulted in a decision of Judge Manuel Bartlett upholding the government's action in expropriating properties of the companies, will appeal to the supreme court of Mexico.

Judge Bartlett's decision, while upholding the constitutionality of the expropriation law and decree of March 18 that took away the oil properties of 17 American and British companies, was at the same time a partial victory for those companies. He ordered that the government must return to the companies the archives, correspondence and cash belonging to them.

Van Hasselt on Job

B. T. Van Hasselt, president of Compania Mexicana de Petroleo "El Aguila," S.A., (Mexican Eagle Oil Company), said the district court's decision was not unexpected and that an appeal would be made within the next five days, as provided by the law.

Incidentally, oil men in Mexico City June 6 attached considerable importance and significance to the orders of President Cardenas for renewal for an indefinite period of the permit allowing Van Hasselt, who is Dutch, to remain in Mexico, THE OIL WEEKLY was informed. Van Hasselt's permit to stay in Mexico expired June 1. When its renewal was asked, Cardenas ordered its immediate granting.

The companies' argument that expropriation measures apply only to real estate was not recognized by Judge Bartlett, who defined expropriation as applying to the firms' machinery, installations, buildings, pipe lines, refineries, storage tanks, tank cars, communication systems, distributing stations, and all fixed and movable goods which in the government's judgment are essential to the exploiting, conducting, storing, refining and distributing of oil products.

Refund to Be Small

Telegraphic communication to THE OIL WEEKLY from Mexico City June 10 stated the government has already announced intention of abiding by Judge Bartlett's decision that money, archives, records, et cetera, on hand March 18, be returned to the companies from which they were taken. However, the same communication points out that the refund will not amount to much after the government deducts from the companies' bank accounts what it considers due the government for taxes and other revenues.

Information received the same day indicates Mexico's production of crude oil has increased sharply since June 1. Sources hitherto considered reliable in government circles told this publication's representative in Mexico City that the daily average production has increased from a few thousand barrels per day up to 100,000 barrels daily. If this rate is maintained Mexico may yield as much as 30,000,000 barrels in 1938, as against about 43,000,000 in 1937. If production had not been crippled by labor troubles and litigation the first half of the year, the chances are Mexico's 1938 output would have exceeded that of 1937.

Though the Mexican government, which customarily released each month figures of the past month's production and corrected figures for the previous month's production, asserts that it has no data regarding April's production—and though the oil workers say they are equally ignorant in this respect—it was learned by THE OIL WEEKLY from responsible private sources that the April output did not exceed 700,000 barrels. For several months prior to expropriation of the properties of the 17 American and British oil companies, Mexico's monthly production averaged slightly less than 4,000,000 barrels, according to government figures.

Exports Announced

Exports of 794,675 barrels of crude and 6584 tons of asphalt in 33 tankers during the interim March 19 through June 8 were announced June 9 by the management of Exportadora Nacional de Petroleo, the official oil export company of Mexico of which Vicente Cortes Herrera is chief. A telegram June 10 states 305,307 barrels of this oil came from Panuco and 131,881 barrels from Poza Rica. Source of the remainder was not accounted for. It is interesting, however, that the official export company's announcement refrained from stating the identity of the purchasers or the destination of the shipped oil. It is also of interest to recall, it is pointed out, that normal Mexican exports during a corresponding interim before expropriation March 18 would have been over 4,000,000 barrels.

Cedillo Still at Large

Meanwhile, notwithstanding the Mexican continued statements minimizing the seriousness of the revolt, the rebel General Saturnino Cedillo remains uncaught. June 6 federal troops reported they had almost caught him. June 8 Cedillo said over short wave radio his men had shot down three government airplanes reconnoitering over his stronghold in the bushy fastness of Huasteca. "I have never even left the place," Cedillo is reported to have said.

Using Propaganda

There appears a possibility that the labor unions in Mexico may be getting worried over the public's reaction to unstable conditions resulting from the expropriation decree of Cardenas, an act said to have been nurtured by the labor unions. During the week the national oil workers' union carried full page advertisements in Mexico City newspapers setting forth its side of the affair by attempts to answer certain editorial comments of American newspapers. Speaking of expropriation, one of the advertisements says:

"It is not confiscation but expropriation, two things that are different, even in the English language; production has not been reduced in the percentage that the Times avers. But what has happened is that because we don't want to sell our oil at prices lower than those on the international market, we have not drastically curtailed production; there has only been a slight decrease in output, and even that slight reduction is disappearing in giant strides. This can be corroborated by the great sales we have made abroad."

In striking contrast to the above statement is that made by Vicente Cortes Herrera, head of the Mexican government's oil organization for export sales. When in Tulsa attending the International Petroleum Exposition in May as a sort of good-will ambassador from Mexico, he said: "Mexico has gone in for proration and conservation. Production has been cut 40 percent since the oil was taken over."

Socony-Vacuum relations in Colombia satisfactory

Relations of the Socony-Vacuum Oil Company, Inc., with the Colombian government were described as "reasonable, fair and satisfactory" by John A. Brown, president of the company, in answer to a stockholder's question during the company's annual meeting held last week in New York.

Brown said the company's investment in the Barco concession in Colombia, held jointly with The Texas Company, would amount to $15,000,000 when a pipe line and terminal facilities were completed. Oil is expected to be flowing through the pipe line by the middle of next year.

Australia buys drilling rigs to aid oil search

Australia has purchased four modern drilling plants which will shortly be placed in operation to assist the search for oil in that country. The drilling plants, purchased at a cost of $270,000, will be hired out to operating companies by the government.

One of the plants is already in operation and another has been ordered from Great Britain, while two more are being shipped from the United States.

The Australian government has now spent about $425,000 of the $1,250,000 originally voted by the parliament to assist in the search for oil. Eight companies in Australia have shared in grants amounting to about $155,000, it was stated.

Concession granted for refining in Portugal

Under the provisions of a charter issued by the minister of commerce and industry, and published in the Diario de Governo for April 26, 1938, the firm Redeventza has been granted a concession for 20 years for the refining of crude petroleum in Portugal.

It is provided that the concessionnaire must establish within a period of 120 days a Portuguese corporation with a capital of 15,000,000 escudos, one-third of which is reserved to the Portuguese state, and that a refinery with a capacity of not less than 150,000 metric tons per annum shall be constructed and put into operation within 14 months. A deposit of 1,000,000 escudos must be made with the government within 10 days to guarantee the execution of these provisions.

The concession, which is exclusive for 10 years, but which runs for 20 years, may be extended in the event that alterations are made to the industrial installation in such manner as to increase the initial expenditure by 25 percent, but in no case shall the concession run for longer than 40 years. At the termination thereof, all installations, equipment, et cetera, shall revert to the state without compensation. The right is reserved by the Portuguese government to cancel the exclusive feature of the concession after a period of 5 years while the concession may be cancelled as a whole after 10 years; in either instance, the concessionaire must be indemnified.

The concessionaire is guaranteed a market equal to 50 percent of the total consumption of petroleum products in continental Portugal, but during the first 10 years market prices shall be subject to government control for the protection of the public.

According to local information, Redeventza is a Rumanian firm with wells and refineries in Rumania and refineries in France and Gelgium.

Land in Angola available for exploratory drilling

According to information appearing in the Portuguese press, the government of the colony of Angola has announced that the concession granted to the Companhia de Petroleo de Angola having terminated, bids may be submitted for a concession for the prospecting and possible exploitation of petroleum and bituminous substances and natural gases in the area extending from the northern boundary of the colony along Meridian 15° East Greenwich to the Benguela railway line, and thence to the coast.

It is reported that the request of the Companhia de Petroleo de Angola for an extension of their concession was denied.

Oil properties in Colombia will not be expropriated

Colombia will not be bitten by the expropriation bug, according to statements made by Felix Mendoza and Benjamin Alvarado, government representatives who recently visited in the United States.

The two explained that terms of the concessions granted to foreign oil companies in Colombia stipulated return of these properties to the nation at the end of 30 years and that the first concession granted, that of Tropical Oil Company, has only until 1950 to run.

While the concessions are in force, the government receives royalty on all oil produced. Current production in Colombia is 60,000 barrels per day.

Swedish petroleum imports register sharp increase

Figures prepared by Kommersiella Meddelanden for Charles E. Dickerson, Jr., of Stockholm, show that Swedish imports of petroleum products for the first quarter of 1938 totaled 279,708 metric tons, as against 237,808 metric tons for the first three months of 1937. As was the case last year, the largest bracket of the total was represented by imports of unrefined motor and boiler oils, with gasoline taking second place in both quarters under comparison.

The following table shows imports of mineral oils, including crude and by-products, into Sweden during the first quarter of 1937 and 1938:

	January-March, Inclusive	
	1937	1938*
	(In metric tons)	
Asphalt	1,064	418
Mineral pitch	4,489	6,264
Gasoline	86,788	97,989
Crude oil	28,629	20,323
Motor and boiler oils, unrefined	94,113	119,026
Kerosene	11,500	20,494
Lubricating and transformer oils	10,424	14,020
Paraffin	781	1,174
Totals	237,808	279,708

* Preliminary figures. 1937 figures are final.

Petroleum production in Peru shows decline

Comparative figures covering crude petroleum production during the months of April of 1937 and 1938 by the two largest companies operating in Peru, according to Julian Greenup of Lima, were as follows:

	April, 1937	April, 1938
	(Barrels of 42 gallons)	
International Petroleum Company, Limited	1,222,394	1,081,263
Cia. Petrolera "Lobitos"	205,803	216,290

A detailed statement of monthly production by the two companies referred to follows:

International Petroleum Company, Limited

Month	1937	1938
	(Barrels of 42 gallons)	
January	1,263,598	1,119,764
February	1,162,876	1,009,852
March	1,272,864	1,118,723
April	1,222,394	1,081,263
	4,911,732	4,329,602

Cia. Petrolera "Lobitos" Crude Petroleum Production

January	202,555	247,337
February	183,303	216,143
March	208,302	227,683
April	205,803	216,290

Austria will show sharp production increase

In accordance with the prediction of THE OIL WEEKLY late in 1937 that crude oil production in Austria during 1938 would show a marked increase over that of 1937, figures for the first four months of this year show a total slightly in excess of the total for the first six months of last year.

Gardner Richardson of Vienna advises Austria's production from Zistersdorf field amounted to 16,700 metric tons during the first four months of this year, as compared with 10,000 metric tons for the same period of last year. Austria's daily production now amounts to about 200 tons, or 1400 barrels; hence, it is expected that the total for 1938 will be even greater than totals for the first four months might indicate.

Austria's only producing area, Zistersdorf field, produces from Sarmat sand.

American exporters of crude and refined petroleum products are enjoying an increasing amount of the Austrian import business, due to difficulties attached to obtaining Rumanian and Russian oil.

Want Britain to consider preference for colonies

The British Government will be asked to consider according a preference to petroleum products produced within the empire in a resolution to be moved at the sixth congress of Associated West Indian Chambers of Commerce, according to dispatches last week from Port of Spain, Trinidad.

The resolution was passed at the last sitting of the federation of chambers of commerce of the British Empire in New Zealand. The congress will open in August.

MEN IN THE INDUSTRY'S NEWS

J. K. MURPHY JOINS BRITISH AMERICAN OIL PRODUCING COMPANY AS ITS CHIEF GEOLOGIST

LEAVES HOME-STAKE-COMPANIES TO ACCEPT THE POSITION

GEORGE J. HANKS, vice president of Tide Water Associated Oil Company, last week was elected president of the Tide Water Pipe Company, Ltd., during the subsidiary company's annual meeting at Bradford, Pennsylvania. Other officers are J. Z. Van Tine, vice president and general manager; M. D. Harris, vice president and chief engineer; C. W. Morrison, secretary and counsel; K. R. Hankinson, treasurer; W. J. Burker, assistant secretary and assistant treasurer; E. W. Duggan, superintendent, and D. J. Ward, purchasing agent.

JOHN WHITTLE, president of the Vancouver (British Columbia) Board of Trade, was to head 50 members of that organization on a tour of the Turner Valley field of Alberta, Canada, on June 12. Quite a number of Vancouver business leaders are among organizers of companies operating in Turner Valley.

Elected by Accountants

D. S. KILGOUR

assistant manager of the California Oil and Gas Association, is the new president of the Petroleum Accountants Society of Los Angeles, a result of a recent meeting of the board of directors. He succeeded R. L. Minckler. Other officers elected for the ensuing year are: L. A. Williford, 1st vice president; W. A. Russell, 2nd vice president; D. A. Moore, secretary - treasurer. Re - elected directors include Mr. Russell and Mr. Williford. New directors are W. B. Thomson, Irving J. Hancock, and J. S. Watson.

BLANK & STOLLER

J. K. MURPHY

J. K. MURPHY assumed his duties as chief geologist of the British American Oil Producing Company, June 1, following his resignation as geologist for the Home-Stake-Companies of Tulsa.

Murphy, a native of Missouri, was reared in Oklahoma and had his high school training at Vinita. He had his college training at the Missouri School of Mines, Rolla.

His first work in the oil industry was with Josey Oil Company, which he joined in 1923. Two years later he became a member of the geological staff of Independent Oil & Gas Company and was with that concern during the development of the Greater Seminole area. In 1929 he became associated with Home-Stake-Companies and remained there until accepting the position with British American Oil Producing Company.

JOHN S. CORDELL, former vice president and general manager of the Cities Service Refining Company, has been named vice president of the Cities Service Company of Pennsylvania. The action marks completion of the consolidation of the Eastern transportation, export and marketing activities of the Cities Service organization, which until last week had been handled by a committee consisting of the vice presidents and general managers of the individual companies.

Other officers are C. E. Foster, vice president and sales manager; H. E. Brandli, vice president and export sales manager; C. E. Story, vice president and transportation manager, and L. M. Bound, general superintendent.

Companies involved in the consolidation were: Cities Service Refining Company of Boston, Cities Service Tank Line Company, Cities Service Transportation Company, A. R. Newcombe Oil Company, Crew Levick Company, Cities Service Export Oil Company and Petroleum Import and Export Corporation, Inc.

W. W. WILKINSON, general manager of California Standard Oil Company of Mexico, has returned to his headquarters in Mexico City after a vacation in San Francisco, Calif.

J. E. F. De KOK, general managing director of Royal Dutch Company, declared there is no likelihood of a world shortage of petroleum even in the distant future, in his annual report released last week in New York. "Thanks to the constant progress in technique, both in the

Fohs Chief Engineer

A. G. LEVY

who recently resigned as production manager of Crown Central Petroleum Company, has joined Fohs Oil Company as chief engineer. He will continue to make his home in Houston. Levy entered the oil business in 1916, immediately after graduating from college. With the exception of 18 months, he served The Texas Company from 1916 to 1937. He performed such duties as roustabout, roughneck, driller, toolpusher, supervisor of seismic exploration, land man, field superintendent, and petroleum engineer.

sphere of geology and that of production, there is every reason to assume that even in the distant future there will be no cause for anxiety about the extent of the available oil reserves," he declared.

JAMES C. WILLIAMS, well tender with the United Natural Gas Company at Lamont, Pennsylvania, for more than 20 years, retired last week.

W. S. FARISH, president of Standard Oil Company of New Jersey, last week at the annual stockholders' meeting said that refinery operations are unprofitable but that other operations are in the black. He expressed the opinion that the present crude oil price structure will hold and that there will not be any serious decline in product prices if the oil state regulatory bodies continue effective regulation.

FRANK PHILLIPS, president of Phillips Petroleum Company, Bartlesville, last week issued a $2,000 check from his foundation fund to the Four Lakes Council of the Boy Scouts to show his "appreciation of the many courtesies extended to me and my staff while in Madison during these troublesome times." Phillips referred to his stay in Madison last winter during trial of the "first" anti-trust case. The donation will make possible construction of a dining hall at Camp Tichora at Green Lake, Wisconsin, summer home for the Boy Scouts.

"The Boy Scouts is one of America's greatest institutions and from their ranks, no doubt, in future generations will arise our leaders in every important walk of life—our judges, our leaders in business, and our future presidents," Phillips declared. "Therefore, those of us who want to contribute something to posterity to help make this country better for our having been here can render no greater service than to be liberal in our donations to this great organization."

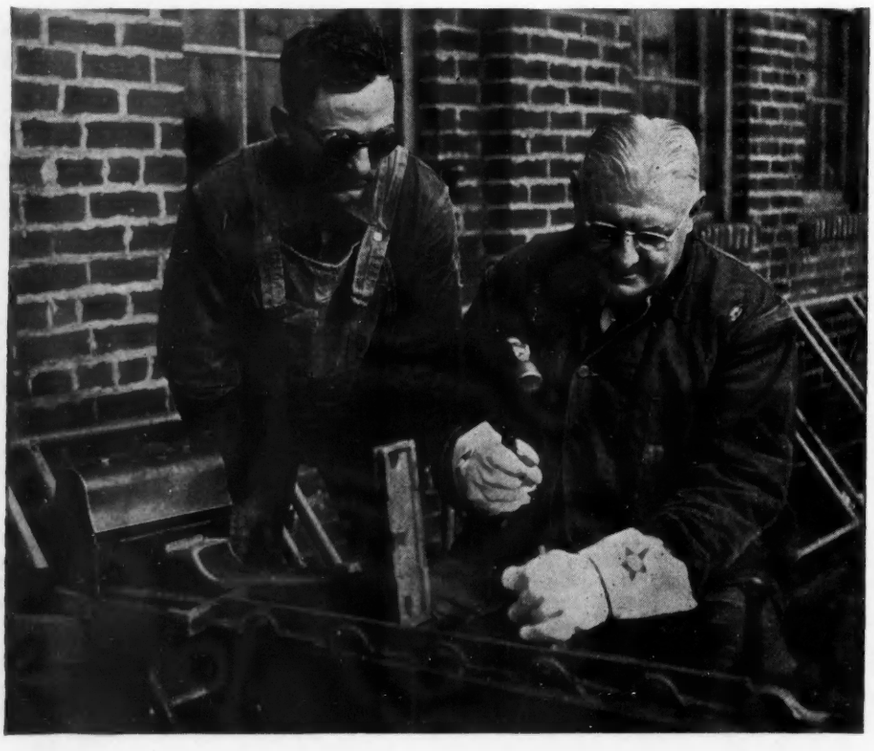
GEN. JAMES G. STEESE, D. Sc., chairman of the board and president of Guajillo Corporation and affiliated companies, attended a board meeting in Chicago on June 6 and returned to San Antonio headquarters via Oklahoma City to visit his corporation's holdings in Oklahoma. Dr. Steese was one of the United States government's delegates to the Second World Petroleum Congress in Paris, last June.

Standard Head Celebrates 40th Anniversary at His Original Job

Edward G. Seubert, president of Standard Oil Company (Indiana), who has pinned many a service pin on employees with due ceremony, received one himself on June 8. It marked completion of 40 years of continuous service. Actually Seubert's career with Standard has extended over nearly 46 years, but because he took a year off in 1897 to work with an uncle, only the years since that time have counted toward his emblem.

In celebration of the event Seubert visited the old shop at the Whiting, Indiana, refinery where he first worked in 1891. Donning a big pair of overalls he demonstrated to Heaverin Douglas (left), refinery worker, and to officials with him, how he used hammer and cold chisel in those days, chipping burrs off castings.

In the evening the Standard chieftain was guest of honor at a dinner given by the board of directors of the company at Flossmoor Country Club.



J. H. GULLIVER, engineer of the Tide Water Pipe Company, Ltd., at Muncy Station, Pennsylvania, was honored by company executives and fellow workers last week on completion of his 55th year of continuous service with the company, a subsidiary of the Tide Water Associated Oil Company. George Hanks, vice president of the latter company, presented Gulliver with the first 55-year service emblem ever given out by the organization. Gulliver is 73 years old.

DR. G. S. HUME, geologist of the Dominion Geological Survey and recognized as a leading authority on the oil geology of Alberta's Turner Valley field, stopped in Toronto last week on his way from Ottawa to the West Canadian field where he will spend two months in a study of the northern part of the field. He planned to stop in Winnipeg, Manitoba, to address the Manitoba section of the Canadian Institute of Mining and Metallurgy upon Turner Valley.

WILLIAM A. HARRINGTON, plant superintendent of the Hope Natural Gas Company at Clarksburg, West Virginia, since July 1, 1929, last week retired after 39 years service with the company. Officials of the company taking part in ceremonies marking his retirement included J. C. Chisler, Pittsburgh, vice president; Harold B. Schum, Pittsburgh, treasurer; W. B. Gribble, Clarksburg, general superintendent, and Joseph M. Low, Clarksburg, plant division manager. Harrington was succeeded by Lloyd L. Yohe, assistant plant superintendent at Clarksburg for the past five years.

F. A. GABY, vice president of British American Oil Company, Ltd., returned to his Toronto headquarters last week following a visit to Alberta in connection with the company's plans to construct a new 5000-barrel refinery to process Turner Valley crude. The plant, which may be constructed in Calgary, Okotoks or High River, "will cost a little in excess of $1,000,000," he said. Directors of the company are to meet in Toronto within the next two weeks, after which decision with respect to the plant's location will be announced.

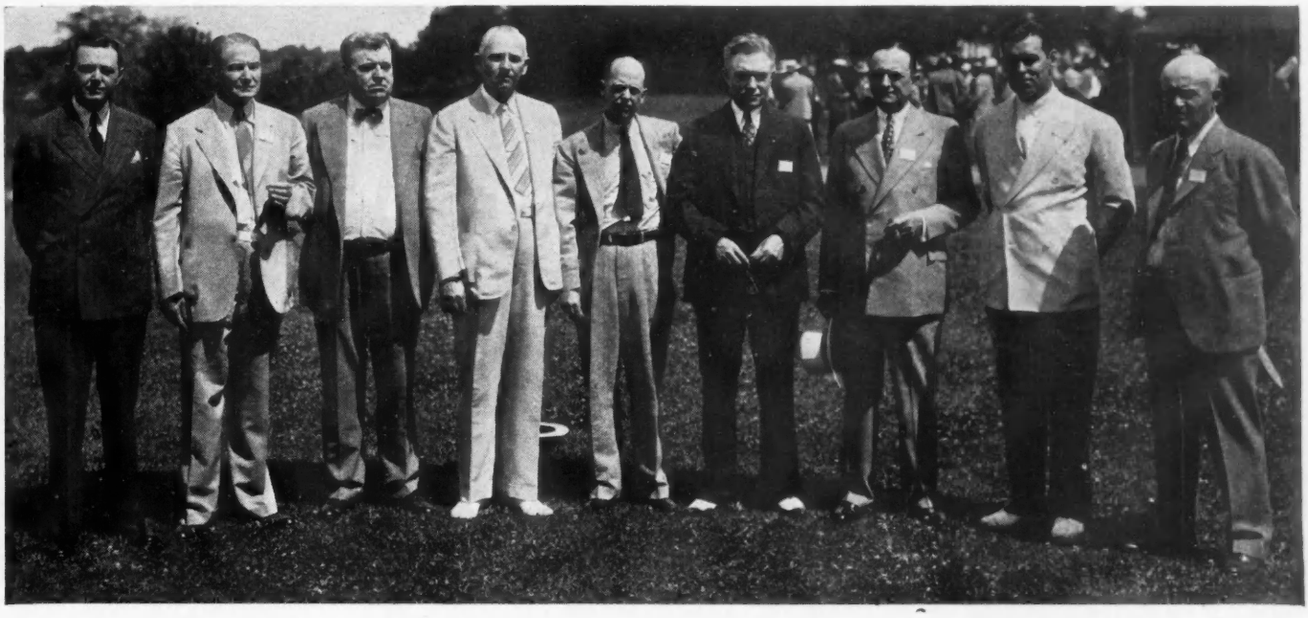
LAWRENCE C. KEELEY, geologist with Mexican Gulf Oil Company at Tampico, Mexico, is spending a vacation with relatives in Wisconsin.

W. R. BOYD, JR., executive vice president of the American Petroleum Institute, addressed the Texas Press Association at its annual convention in Port Arthur, Texas, June 9.

ALEXANDER DEUSSEN and **KENNETH DALE OWEN,** consulting geologists of Houston, were the principal speakers at the regular weekly meeting of the Houston Geological Society at the Lamar Hotel, June 9. Their subject was "Correlation of Surface and Subsurface Formations in Two Typical Sections of the Gulf Coast."

R. J. DERVEY and **W. H. ECHOLS,** petroleum engineering graduates of the University of Minnesota and Texas A. & M. College, respectively, have been employed by Amerada Petroleum Corporation for duty in the Fairbanks field, near Houston, as junior engineers.

Illinois-Indiana Petroleum Association Officials and Guests



Some of the officers and directors of the Illinois-Indiana Petroleum Association, in session June 4 at Robinson, Illinois, for the sixth annual meeting. Left to right: R. W. McIlvain, Jr., secretary; William Bell, president; Alex U. McCandless, director; John T. Cumbie, first vice president; T. B. Steele, treasurer and director; C. C. Carroll, director; W. R. Boyd, Jr., executive vice president of the American Petroleum Institute and guest speaker at the meeting; Lee Mulvihill, executive secretary, and Frank Barnes, director.

J. EDGAR PEW, vice president in charge of production activities of the Sun Oil Company, has returned to headquarters at Philadelphia after spending a week at Dallas primarily to attend the company picnic held June 2 at a Dallas country club. He introduced the company picnic event 20 years ago when in charge at Dallas, and each year is on hand to referee the athletic contests and help consume the mounds of fried chicken.

LEA C. STEDMAN, East Texas scout for The Pure Oil Company, entered a hospital at Tyler early last week for treatment of a stomach disorder in hopes of staving off an operation.

COL. E. W. CHATTERTON, member of the Federal Tender Board on duty in the East Texas field, sustained a broken arm June 4 as result of a bath room fall at his residence.

GEORGE W. LaPEIRE, consulting geologist, is moving his office from Robinson, Illinois, to San Antonio, Texas.

KIROL HOLM, vice president and general manager of Winona Oil Company is touring the producing and prospective areas of North Central and Southwest Texas.

S. E. SLIPPER, director and chief geologist of the Canadian Western Natural Gas, Light, Heat and Power Company, Ltd., Calgary, Alberta, has been elected a Fellow of the Royal Society of Canada. He was a graduate of Queen's University, and was associated with the late Dr. D. W. Dowling on the early geological surveys of Alberta. He later carried out the first detailed mapping of Turner Valley, Wainwright and other Alberta oil and gas areas. He was placed in charge of the Federal Geological Survey Branch established in Calgary in 1913, and while holding that position organized a collection of well records and subsurface geological data from drilling wells. He was appointed to his present position in 1925.

JAKE L. HAMON, Dallas producer, accompanied by his family, boarded ship last week at New York for a three-months vacation in Europe. An automobile was taken along to tour some of the countries.

FRANK M. (JAKE) JACOBSON, vice-president and manager of the Buffalo Oil Company, has transferred headquarters from Tulsa to Dallas, where the company has located in the Gulf States Building. Bulk of the company's activities now involve Texas areas.

R. E. HOLCOMB, formerly of the land department of Sunray Oil Company at Tulsa, has been placed in charge of the company's new division offices in Los Angeles.

DIED:

FRANCIS E. POWELL, 75, of London, England, former chairman of the board of the Anglo-American Oil Company, died June 1 of a heart attack while visiting his sister, Mrs. Henry S. Powell, in Washington. He was associated with the British operating unit of the Standard Oil organization from 1904 until 1930, when the company was merged with Standard Oil Company of New Jersey. He had been chairman of the board from 1912 to 1930. He was a former president of the American Chamber of Commerce in London, and one of the best known American business men in Europe.

ALLEN LEE BRAYMER, 74, who retired in 1926 as production manager for Gulf Oil Company, died in a Tulsa hospital June 3 from a stroke of paralysis suffered three weeks previously. He gained his early experience in the oil industry in Pennsylvania, later working in Ohio and Indiana with the Ohio Oil Company for a 20-year period. He is survived by one son and five daughters.

JASPER MILLER, 50, pumper in Lawrence County, Illinois, fields for the past 18 years, died June 2 in a Vincennes, Indiana, hospital of injuries received while repairing a gas engine on the Gillespie lease south of Lawrenceville.

GORDON CAMPBELL, 64, credited with drilling in the first oil well in the Kevin-Sunburst field of Montana 20 years ago, died following a heart attack while watching a baseball game at Kevin, his home. Surviving are one brother, George, of Long Beach, California.

GUY GILBERT, 50, field employe of Shell Petroleum Corporation at Wink, Texas, was killed May 30 near Pvote when his auto overturned as result of a tire blowout. Funeral services were held at Wichita, Falls.

R. F. GILMAN, oil producer in the West Central Texas district for the past 20 years, died June 7 at his Cisco residence.

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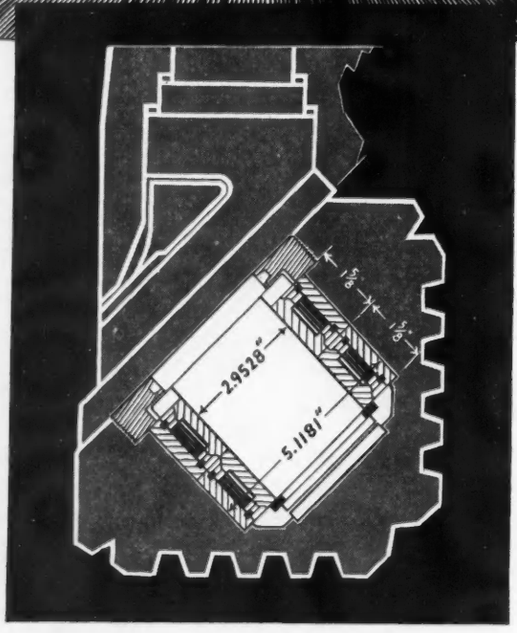

No matter what kind of formation is being drilled, the bearing in a roller rock bit works under constant punishment. The twisting, tearing action of the cutter teeth plus the weight and chattering backlash of the drill stem . . . all impose severe shock and vibration on the bearing. It is the toughest kind of a load that any bearing can carry . . . and it is carried under the toughest conditions, in a thick sludge of abrasive rock particles.

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- ★ Crown Blocks
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- ★ Swivels
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THE WEEK'S NEWS SUMMARIZED

Legislation

Legislation providing for the consolidation of the federal government's holdings in Naval Reserve No. 1 in California appears headed for enactment before adjournment of the session as a result of pressure from the White House. Three days of hearing, replete with charges of scandal in the leases now effective in the two California reserves and demands for full investigation of the situation, were followed by a decision of the House Naval Affairs Committee to report the bill. The rules committee will be asked to clear the way for its prompt consideration on the floor.

Embargo of oil imports is proposed as an aid to the domestic petroleum industry, in a bill introduced in Congress. No possibility is seen for enactment of the measure this year. In addition to embargoes whenever domestic supply gets ahead of demand, the present import taxes on crude, fuel and lubricating oils and gasoline would be increased.

Preliminary drafting of a bill proposing oil legislation for the state of Illinois is practically complete. Illinois, which has been the site of an important oil revival during the past year, is without legislation providing for oil conservation.

Markets

Markets last week were featured by a ⅛ to ¼ cent increase in gasoline prices. Meanwhile, strict production control, which has resulted in lowering crude oil stocks, has greatly strengthened crude markets, although they remain unchanged. However, most of the fears of some weeks ago that crude price reductions were likely has been dissipated.

Although gasoline prices advanced last week, it is indicated that further improvement can not be expected unless there is definite progress in reducing gasoline inventories. Comparatively heavy runs to stills, while aiding the raw product market, has not benefitted refined postings, as gasoline stocks continue too high. Another unfavorable factor is the lower trend of oil consumption in comparison with earlier years.

Labor

The annual convention of the International Oil Workers' Union, CIO affiliate, in Houston last week, resulted in several important resolutions, which, if accepted, might bring about agreement between the two principal labor groups in the United States. It was proposed that a National Labor Peace Office be established to adjust the differences between the CIO and AFL. Another resolution favored congressional embargo on oil imports from countries using peon labor, and another favored establishment of a "black list" of companies violating the National Labor Relations Act, from whom the government would not purchase for three years.

Proration

Something new in pipe line proration was proposed last week when Standard Oil Company of Louisiana offered contracts to producers in some south Arkansas fields that placed a top limit of 200 barrels per well.

The right of Kansas conservation authorities to restrict the output of wells when the owners have markets available to them is to be contested in court, a suit having been filed last week.

Mexico

Oil companies whose properties were expropriated by Mexico, plan an immediate appeal to the Mexican Supreme Court, following the ruling of District Judge Manuel Bartlett June 7 upholding constitutionality of the seizure. The lower court denied an injunction asked by the British and American companies, but held that the Mexican government was at fault in seizing bank deposits, archives, and correspondence of the companies, and ordered return of cash and records.

Statistics

Warning that a sharp recession in oil production threatened, the Bureau of Mines reports that output in April failed to hold the advance it secured in March, daily average dropping to 3,423,400 barrels. Only bright spot in the situation is the gasoline export demand, which bids to hold up definitely; April shipments were 61 percent above those of the same month last year, due to war and military demands. Figures recently compiled by the Department of Commerce disclosed that the United States furnishes over 60 percent of all oil purchased by Japan.

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Oil at the Capitols

Spurred by presidential demands, House committee passes naval reserve bill to floor . . . Embargo on imports during over-production periods asked

Naval reserve consolidation bill passes House committee

Spurred by a demand by President Roosevelt for enactment this year, the House Naval Affairs Committee on June 9 ordered the Walsh bill for consolidation of the naval reserves. The action of the committee was taken after three days of hearings mostly devoted to wrangling among members of the committee over the question whether the leases in Reserve No. 2 were legal.

Sole opposition to the reporting of the bill was voiced by Representative Alfred N. Phillips, Jr. (Dem.), of Connecticut, "stormy petrel" of the committee, who urged that no action be taken until the validity of the leases had been passed upon. Other members of the committee, however, pointed out that the Navy Department has been seeking the legislation for 10 years and objected to further delays as making impossible enactment this session.

Wants Investigation

Attempting to head off consideration of the Walsh bill, which was passed by the Senate in April of last year, Representative Phillips on June 1 introduced a resolution in the House for an investigation of all leases and purchases in both of the California reserves.

The Connecticut congressman, whose district is thousands of miles removed from the reserve areas, did not indicate whether he had definite information of any irregularities, but his resolution, introduced June 1, calls for an exhaustive study of the entire situation by a special committee of five congressmen to be appointed by the speaker of the house. The sum of $50,000 would be authorized for expenses of the investigation.

Supporting his measure, Representative Phillips pointed out that the leases were approved by Secretary Albert B. Fall, whose administration of government oil lands was investigated by the senate with sensational disclosures of bribery and corruption. A full study of the circumstances leading to the making of the leases should be undertaken, Phillips said.

"As far as I can find out, and I have been working on this from time to time for a year, no legal effort has been made to get these lands back for the United States, with one exception," Congressman Phillips said.

"These leases, so-called, drain oil away from our navy ground reserves and make the name 'reserve' a joke and a farce."

Phillips put into the record a letter which he wrote to President Roosevelt June 3, calling his attention to the dangers of bills pending in congress under which the government would make exchanges of lands with private holders in the reserves to consolidate the government's properties.

The Attorney General, he said, has never been consulted to determine whether the government was sacrificing any of its rights in passing the bill.

"This bill," Phillips charged, "would not only accomplish the ostensible purpose which appears on its face, but would also do the following: Give further legal approval to the possession of oil lands which were obtained by the Southern Pacific Railroad, initially, from the United States government in a way which was illegal, but also in a way which still leaves a loop-hole to the United States for the possibility of further legal action. Unfortunately, however, at this late date the probability of the United States repossessing these lands or obtaining damages is not very great, despite the fact that when these lands were granted away by the United States government, it was with the distinct proviso and understanding that these lands should not contain any minerals of any kind, including oil."

Bill Is Amended

As ordered reported by the committee, the bill provided that all acts of the Secretary of the Navy in connection with the oil reserves must be approved by the President, and specifically stipulated that nothing in the measure should be construed as validating any leases or precluding the government from pressing and claim it now has or may have in the future to any of the lands under lease.

The bill also was amended so as to limit the Secretary of the Navy to the operation of the petroleum leases by a proviso that the oil shale reserves should not be developed.

Navy Favors Bill

Testifying on the desire of the Navy Department for the legislation, Captain H. A. Stuart, director of naval petroleum reserves, expressed the opinion that while many petroleum technologists hold that the oil resources of the United States are ample, use of these resources is largely dependent on much higher prices because of the greater development and production costs.

Reserve No. 1, he said, is important because it "constitutes what is probably one of the few remaining large areas in the United States where, from comparatively shallow wells, it can be reasonably anticipated that, within a relatively short period of time, intensive drilling will develop a daily production of oil sufficient to meet a sudden national crisis.

"It is not improbable," he warned, "that some day the safety of the United States may depend on the oil remaining in this reserve and therefore it must be protected from further depletion and the government's lands therein must be consolidated so that the largest possible area will be embraced in a single tract of land."

Many Wrangles

Much of the time of the hearings was consumed in wrangles among members of the committee over the legality of the leases held by private operators, which Representative Phillips of Connecticut pointed out were made by former Secretary of the Interior Albert Fall of "Teapot Dome fame."

Phillips contended that provisions of the bill "validated" those leases, and precluded further action by the government to prove them fraudulent and collect damages, although other members pointed out an illegal lease had no standing and could not thus be validated.

Opposition also was taken to provisions of the bill authorizing the exchange of government and privately owned lands, with several members declaring the proper solution to be condemnation and purchase of the latter. To this, Captain Stuart agreed warmly, but pointed out it would involve a heavy expenditure, possibly running as high as one hundred fifty million dollars.

"It would be absolutelv the best thing," Stuart said, "but I do not think Standard Oil would sell willingly."

It was pointed out by Representative Maas of Minnesota that the department's plan for exchanges would give Standard Oil the best part of the oil dome in reserve number one.

At the suggestion of the committee, the Navy Department prepared an amendment to provide that nothing in the bill shall be considered as validating, acquiescing in or clearing any claim of any person other than the United States to any right, title or interest in any lands claimed by the United States, or preventing any action by the government to recover such lands.

Chairman Vinson, after members of the committee had expressed dissatisfaction with provisions vesting authority in the secretary of the navy, insisted that in every paragraph wherein the secretary was given any authority it should be exercised only with the approval of the president.

He also suggested that a provision might be written into the bill giving the president authority to employ legal talent to explore the whole question of ownership of lands in the naval reserves, to settle that problem for all time, taking the matter out of the hands of the attorney general.

President Urges Enactment

The chairman submitted to the committee a letter written to the secretary of the navy by President Roosevelt on May 27, in which he said the matter of the naval reserves had been given attention by the White House in February, 1936, and that he considered legislation necessary in the interest of the national defense.

"In view of the conditions existing at this time it appears highly advisable that Congress pass this bill or similar legislation at an early date," he wrote.

Captain Stuart, in answer to committee questions, explained that the shallow sands in Reserve No. 2 are practically depleted and agreed that that area is no longer a reserve because of the inability of the government to keep the oil in the ground.

He agreed with members of the

committee that if the bill is not passed without further delay, Reserve No. 1 may eventually be in the same position as No. 2 now is and the Navy left without the resources upon which it might have to depend in time of war.

Representative Phillips, reverting continually to the alleged illegality of the leases in the reserves, also attacked the ownership of the patented lands in Reserve No. 2 and suggested that the attorney general be asked to report whether any steps could be taken toward their recovery.

When the bill reaches the floor, it is probable that Representative Byron N. Scott (Dem.) of California will offer an amendment authorizing the Secretary of the Navy to construct a refinery, and to operate both wells and refinery, as a means of securing for the government a greater share of the oil revenue than he thought it is getting under its present royalty leases.

Asks for increased tax on imports

Increased excise taxes on imported oils and an embargo on imports in times of excessive domestic supply were sought last week by Representative John M. Houston (Dem.) of Kansas, in a bill introduced in Congress.

Under the bill, the rates on imports would be increased to 1½ cents per gallon on crude and fuels oils, 2½ cents per gallon on gasoline and 4 cents per gallon on lubricating oils.

The provision for an embargo in times of excessive supply has been repeatedly proposed, in one form or another, by independent interests over a period of several years.

Introduced in the last days of the session, there was no expectation that any action would be taken on the measure this year.

In explanation of his bill, Congressman Houston pointed out that the price structure of the oil industry is menaced by oversupply, which has resulted in a drastic curtailment of production. To considerable extent, he said, the over-supply is aggravated by imports, which increased 27.3 percent during the first three months of this year as compared with the same period in 1937.

Pointing out that Congress has endeavor to aid conservation by the Connally act and other measures, he explained that "that balance of supply with demand, which is one of the purposes sought in these conservation efforts of Congress, is either being actually overthrown or threatened with overthrow by the incalculable quantities of foreign oil imports. In other words," he said, "a few great importers can nullify a policy of government and the intent lying behind several acts of Congress. This ought not to be so."

Embargo During Excess

The proposed embargo on imports would be invoked by the President whenever domestic supply becomes so excessive that the market is unable to absorb the full production legally set by the regulatory bodies of the several producing states.

"It seems only fair," he declared, "that when a situation of oversupply is created by excessive importations, such as have marked the first quarter of the present year and have marked many periods in the past history of the petroleum industry, these importations should be discontinued until the situation they have aided to create has been corrected."

In order to protect the bituminous coal industry from unfair competition from oil, Representative Houston would have an embargo on the latter whenever the price of coal is below a proper relationship with that of oil.

Taxes will not apply on oil produced after June

Collectors of Internal Revenue throughout the country last week were informed by Commissioner Guy T. Helvering that taxes on production and refining of crude petroleum will not apply to oil produced or refined after June 30.

The announcement was made in conformity with provisions of the Revenue Act of 1938, which provided for the repeal of these and a number of other miscellaneous taxes. The oil taxes went into effect with the Revenue Act of 1934.

Outlining the expiration of the various levies repealed by the new tax act, the commissioner said:

"The tax imposed by Section 604, as amended, of the Revenue Act of 1934 shall not apply, in view of the provisions of Section 701(g) of the Revenue Act of 1938, to crude petroleum sold after June 30, 1938.

"The tax imposed by Section 605, as amended, of the Revenue Act of 1934, shall not apply, in view of the provisions of Section 701(h) of the Revenue Act of 1938, to crude petroleum refined or processed, or gasoline produced or recovered from natural gas, after June 30, 1938."

Illinois oil legislation report ready next week

Plans for a preliminary report to be made to Governor Henry Horner on the subject of oil legislation were discussed by members of the Illinois Basin Oil Survey Committee meeting in Flora last week. The preliminary report is to be ready next week, and a complete report will be prepared for submission to the 1939 legislature.

Tyler Andrews, of Lawrenceville, was named to the committee to replace T. B. Steele, of Robinson, who could not serve. Other members are John Pugh, Centralia, chairman; Clarence T. Smith, Flora, secretary; A. R. Thompson, Mattoon, and John J. Parrish, Centralia.

The governor included the subject of oil and gas conservation as well as severance taxes in his call for the special session of the legislature, which convened recently, but declared he had no recommendations to make.

Bill would increase Louisiana gasoline tax

A measure that would increase the Louisiana state gasoline tax from 7 to 8 cents a gallon has been introduced in the legislature by Representative Guy Holloway. The proposal would earmark one cent for state relief, two cents for local relief and five cents for road funds.

Responsibility for payment of social securities taxes

Responsibility for the payment of social security taxes on the wages of casing crews is fixed in a decision issued this month by the Bureau of Internal Revenue.

Citing provisions of Articles 3 and 205 of the regulations, defining the relationship of employer and employee, the bureau held that:

"Where an oil producer or drilling contractor engages a casing crew to perform services under his general direction, or under the supervision of one or more of his delegated employees, it is held that the right to exercise the control prescribed by articles 3 and 205, as being necessary to establish the relationship of employer and employee exists and that such producer or contractor is the 'employer' of each individual member of the casing crew whose services are so engaged. The producer or contractor in such a case is liable for the collection, return and payment of the taxes imposed under Title VIII (unemployment compensation) and, if he qualifies as an 'employer' under Section 907(a), Title IX (old-age pensions), he is also liable for the tax imposed under that title.

"Where, however, the circumstances of the employment of a casing crew clearly indicate that the manager or foreman thereof is engaged by the oil producer or drilling contractor to furnish the particular services required and has the right to exercise general supervision, direction and control over the members of the casing crew, such individual members of the crew are not employees of the oil producer or drilling contractor within the meaning of the Act and the afore-mentioned provisions of the regulations promulgated thereunder. In this event, however, the casing crew manager or foreman is the 'employer' of those individuals engaged by him to perform the services in question and is liable for the collection, return and payment of the taxes due under Title VIII of the Act with respect to the compensation received for such services. If the manager or foreman qualifies as an 'employer' under Section 907(a), Title IX, liability for the tax imposed by such title is incurred with respect to wages payable to the individuals so employed.

Attack Pennsylvania gas expansion edict

Judge Harry Kalodner, a former secretary to Governor George H. Earle, last week attacked the Pennsylvania executive's edict of 1936 banning extension of natural gas markets into eastern Pennsylvania, a region served by anthracite. Kalodner appeared before the public utility commission at Harrisburg as counsel for Lukens Steel Corporation, of Coatsville, seeking to have natural gas service for industrial purposes supplied by the Manufacturers Light & Heat Company of Pittsburgh.

Steel company officials declare use of natural gas will bring a marked saving in operating costs and permit the plant to continue operations. If the application is refused, a shut-down of Coatsville's major industry is threatened.

Allowable Picture

Standard may limit Arkansas buying to 200 barrels a well . . . Oklahoma officers clash . . . Kansas enforcement power when market exists is attacked

New pipe line proration idea in Arkansas

Standard Oil Company of Louisiana introduced a new idea in pipe line proration when it offered producers in the Village, Magnolia, Schuler, and Buckner areas of southern Arkansas crude contracts providing for a top purchase of 200 barrels daily per well. Producers accepting the proposition will be connected to the line, which is planned as a connecting link between the company's El Dorado system and Louisiana pools.

Contest right to limit output when have market

Suit to test the authority of the Kansas Corporation Commission to limit output of an oil field when a market exists for the oil was started at Winfield, Kansas, June 7, when W. H. McNabb, Winfield, and Tulsa Oil Corporation were granted temporary injunction in district court. They pleaded that there was a market for oil from the newly discovered Hittle pool, Cowley County, where the one well completed in May is limited to 21 barrels daily.

The litigation is the outgrowth of the effort of Kanotex Refining Company to get more oil. This concern cut the price of oil 25 cents a barrel May 10. Since then some Kansas producers have reduced well output below the minimums of the corporation commission in fields where the concern has pipe line connections.

Early in June other producers asked to have back allowables released in order to sell to the Arkansas City refiner. These were denied.

Oklahoma Corporation bickering breaks out

Bickering within the Oklahoma Corporation Commission had its second outbreak June 6 when A. S. J. Shaw, a member, publicly criticized lack of enforcement of proration orders. Shaw, who clashed verbally with W. J. Armstrong, conservation officer, at the hearing to determine June allowable, cited production figures for Oklahoma and May, 37,000 barrels daily higher than the May allowable and asked why orders were not being enforced.

Differences within the commission reached a straining point when the May proration order was under consideration. Finally Shaw and Jack Walton signed an order setting the allowable at 460,000 barrels daily. When Kanotex Refining Company reduced its crude quotation 25 cents a barrel May 10, a flurry of conferences both personal and by telephone brought an emergency order of 405,000 barrels daily.

Shaw related June 6 that he was in Texas when called on the question and agreed to sign an order to reduce the Oklahoma allowable by one-sixth. He said he thought this would be a reduction of one sixth from the amount of the order but learned later that it was such a reduction from the output of the previous week.

When the June order was under consideration Shaw and Armstrong, who was a witness staged a verbal tilt, which Shaw has designated "contempt of court." His statement of June 6 contained a blast at Reford Bond, commission chairman, as failing to give support, "even to the extent of a reprimand to an employe for contempt in open court."

Shaw related how Oklahoma output had remained above its allowable and said:

"Inquiry was made several times about what was being done and when the public hearing date arrived May 26 I protested that the order was not being enforced. I had objected in private. I had protested in conferences and felt there was nothing else I could do except raise the issue in public and, though I have received no support from Chairman Bond, not even to the extent of a reprimand to an employe for contempt in open court, I feel sure something will have been accomplished.

"When the June allowable was being considered, Chairman Bond proposed placing a clause in the order prohibiting the pipe lines from taking more than the allowable. I would not agree for the reason I felt this was a move to make it appear that I blamed the companies for overproduction when I made it very plain in open hearing that I was charging the conservation officer with failure to enforce the order. And I want to ask the chairman if the commission is embarrassed when its orders are not obeyed and if so, who is embarassing the commission now?"

In Legal Circles

Delay hearing on defense motion in Madison trust suit . . . Supreme Court gives attention to gas rate suit . . . Michigan may withhold oil rights

Trust suit rulings postponed until July

Federal Judge Patrick T. Stone has postponed until next month, possibly about July 12, a hearing at which he will hand down his decision on defense motions for a new trial or an arrest of judgment entered by counsel for 16 major oil companies and 30 individuals found guilty in January of conspiracy to artificially fix gasoline prices in 10 mid-western states through operation of buying programs in the East Texas and Mid-Continent fields. He had previously announced the decision would be ready June 9.

On the government's motion, the court dismissed an indictment standing against Frank R. Coates, New York, vice president of the Cities Service Company, whom the court was advised is too ill to stand trial.

Arkansas gas rate suit to Supreme Court

The United States Supreme Court was asked last week to review a decision of the Eighth Circuit Court of Appeals that a natural gas rate of 45 cents a thousand cubic feet established by the city council at Texarkana, Arkansas, for service of the Arkansas-Louisiana Gas Company was valid and not confiscatory.

The rate was established in 1923, and 10 years later the company asked for an increase on a downward-sliding scale beginning at $1.75 for the first thousand cubic feet. The council countered with a rate of 40 cents a thousand cubic feet, claiming that the 45-cent rate then in effect was even too high. The Western Arkansas federal district court subsequently held the 40-cent rate to be confiscatory, leaving in effect the previous rate of 45 cents.

According to provisions of the city council's resolution establishing the 40-cent rate, the 45-cent rate expired with the effective date of the new rate, the company maintains, charging that the district court "in considering the validity of the 45-cent rate and in sustaining it, after invalidating the 40-cent rate, acting legislatively and not judicially."

Michigan upheld in withholding oil rights

The Michigan Supreme Court last week upheld a Gladwin Circuit Court decision finding the state within its rights in withholding mineral, oil and gas rights on public lands deeded to homesteaders. The action was brought by Mrs. Lena L. Rathbun, who sought to enjoin the state from leasing mineral rights on an 80-acre tract homesteaded by her father-in-law in 1921.

The recision in the test case protects some $300,000 in royalties now held in trust by the state, and at least $100,000 more each year in the future for an indefinite period, according to officials of the conservation department, who were named among defendants in the suit. Attorneys for Mrs. Rathbun contended that the Public Domain Act was in conflict with the

previously enacted General Property Tax Law and, therefore, unconstitutional. The supreme court, however, held there was "nothing inconsistent or contradictory" in provisions of the two acts.

"While the General Property Tax Law makes provision for the assessment, levy, collection and enforcement of property taxes and the foreclosure of tax liens, it also provides for the acquisition by the state of absolute title to the lands for delinquent taxes and for the sale of such property originally through the commission of the state land office, then through the public domain commission and thereafter through the department of conservation," the court declared.

"These various statutes, the General Tax Law, an act for the appointment of a commission of inquiry, the Public Domain Act and the Conservation Act, are not contradictory. The Public Domain Act providing for the reservation of oil, gas, coal and mineral rights in all lands owned by the state infringes upon no other statute and contravenes no provision of the constitution in this regard."

Supreme Court will not review Texas gas rate

Attorney General William McCraw of Texas failed last week to obtain reconsideration by the United States Supreme Court of its decision reversing the judgment of the Texas Court of Civil Appeals upholding a Texas Railroad Commission order reducing from 40 to 32 cents a thousand cubic feet natural gas rates charged by the Lone Star Gas Company to distributing companies serving 275 municipalities. (See THE OIL WEEKLY, May 23, page 69.)

The high court remanded the litigation to the state court for further proceedings.

Texas gas companies pay tax under protest

Sharp curtailment of the Gas Utilities Division of the Texas Railroad Commission is threatened because gas companies have begun making payments under protest. Such payments are diverted to a suspense fund, and may not be used by the division.

Lone Star Gas Company which paid under protest, has indicated that it will file suit attacking the validity of the tax because the commission has used funds to originate evaluation projects. It is the contention of the company that cities must first pass an ordinance before the commission may institute investigations.

Meanwhile Attorney General McCraw has advised the comptroller that he may issue warrants against the fund, even though there is no cash on hand and the only source of income is from payments made by the gas company. Whether these warrants could be paid by the treasurer is doubtful.

Pleas ordered filed in Ohio gas dilution case

Ohio Fuel Gas Company was ordered last week by Common Pleas Judge John R. King to file motions or pleas by June 25 in connection with indictments charging rendering a false bill to a municipality and of obtaining money under false pretenses. The indictments, which also involve 15 officials of the company, grew out of alleged dilution of natural gas with inert flue gas or smoke in the Columbus, Ohio, area.

Labor Situation

Peace office to adjust union differences, embargo against countries using peon labor, "black list" for NLRB violations, suggested at CIO oil meeting.

The annual convention of the International Oil Workers' Union, which was held in Houston last week, saw several important resolutions proposed, which, if accepted, might bring about a peaceful settlement between the two principal labor groups, and a discontinuation of import of oil from countries where low type working conditions exist.

The first resolution proposed a National Labor Peace office in Washington, which would adjudicate differences between the C.I.O. and the A. F. of L., and the second favors a congressional embargo on oil and petroleum deposits produced under peon conditions. Of considerable importance was further approval of a "black list" of companies violating the National Labor Relations Act. This amendment provides for withholding government purchases for 3 years from any company found guilty by the NLRB of violating labor laws.

The convention, which started June 6, was attended by more than 300 delegates and executives from 36 different states, headed by Harvey C. Fremming, international president of the union. Speakers at the various sessions of the convention included: Edwin S. Smith, member of the National Labor Relations Board; John Brophy, director of Committee for Industrial Organization, of which the union is an affiliate; Dr. Edwin S. Elliott, regional director of the labor board; and Governor James V. Allred of Texas.

Governor Allred Speaks

The highlight of the convention was the speech delivered by Governor Allred, in which he defended charges of the union of his being unfriendly to labor. In further outlining his attitude towards labor he stated that naturally some of those interests, with whom he had crossed swords in the legislature on such matters as child labor safety regulation and the sales tax, would like to create friction between us. In all these fights, he said, he had the support of and had given his help to the legis-

[*Continued on page 82*]

Officials of Oil Workers International Union

Some of the officials of Oil Workers International Union, which last week held its nationwide convention in Houston, are shown here. Seated, from left to right, E. C. Conarty, secretary-treasurer; H. C. Fremming, president; G. E. Hatton, president of district council No. 4. Standing, left, B. J. Schafer, vice president; and J. L. Coulter, vice president.

Exposition Meeting

Oil-World Exposition makes plans for 1939 show in Houston, reelects all officers, and enlarges board of directors to 125 members at its annual meeting

Decision confirming the action of the board of directors of the Oil-World Exposition on having an oil exposition in Houston in April, 1939, was taken by members at the annual meeting of the organization at the Rice Hotel in Houston, Tuesday, June 7. The action followed a discussion participated in by a number of oil men, manufacturers and supply men, some of whom spoke in favor and some of whom spoke against it.

Reference was made by speakers to the inability of the industry to carry on a show each year, one at Houston and one at Tulsa and to heavy investments made at Tulsa. Other speakers countered with the statement that attendance should be considered and that a poll taken among a number of oil companies two years ago indicated that they preferred a show at Houston and would send a heavier contingent of representatives to the Oil-World Exposition than they would send to the exposition at Tulsa. One speaker asserted that if permanent investments were necessary to the success of the Oil-World Exposition, the three companies he represented were ready to get behind such a movement.

In response to questions from the floor, reports were made again of efforts made by the committee from Oil-World Exposition to get directors of the International Petroleum Exposition at Tulsa to agree on a program of two shows in a four-year period, one of which would be held in Houston and one at Tulsa. The International Petroleum Exposition directors were unwilling to agree to such a proposition, it was reported.

Reference was made to a poll of exhibitors last fall at which time a majority of exhibitors replying to a questionnaire sent out by Oil-World Exposition in Houston had expressed themselves as being favorable to a show in Houston. The vote on the motion of having an exposition in Houston in 1939, taken after nearly an hour's discussion, was 42 to 14 in favor of the 1939 show, a considerable portion of the approximately 120 persons present not expressing themselves by vote.

Officers Reelected

At the directors' meeting immediately following the membership meeting the following officers were re-elected for the ensuing year:

John R. Suman, president; Chase Sutton, executive vice president; J. S. Abercrombie, George A. Hill, Jr., W. L. Childs, and Wallace Wilson, vice presidents; Ray L. Dudley, secretary-treasurer; A. L. Burns, assistant secretary-treasurer.

The entire executive committee elected last year was re-elected as follows:

John R. Suman, vice president, Humble Oil & Refining Company; Chase Sutton, division manager, The Pure Oil Company; J. S. Abercrombie, president, J. S. Abercrombie Company; George A. Hill, Jr., president, Houston Oil Company; W. L. Childs, vice president, Reed Roller Bit Company; Wallace Wilson, president, Wilson Supply Company; Ray L. Dudley, president, Gulf Publishing Company; S. P. Brown, vice president, Hughes Tool Company; W. B. Sharp, president, Mission Manufacturing Company; Frank Carothers, vice president, Norvell-Wilder Supply Company, and Joe Russell, assistant to president, Gulf Oil Corporation, Houston.

Changes were made in the by-laws, increasing the number of directors to 125 and fixing a quorum at 25.

Board of Directors

The following were elected members of the board of directors:

J. S. Abercrombie, president, J. S. Abercrombie Co., Houston; R. E. Allison, oil operator, Shreveport, Louisiana; John O'H. Anderson, Jones & Laughlin Steel Corporation, Pittsburgh, Pa.; V. E. Ashford, district manager, Parkersburg Rig & Reel Co., Houston; F. M. Austin, superintendent, Commercial & Industrial Sales, Petroleum Electric Power Club, Houston; J. C. Axelson, Axelson Manufacturing Co., Ltd., Los Angeles, California.

Thomas H. Barton, president, Lion Oil & Refining Co., El Dorado, Arkansas; Cy Bell, Bell & Loffland, drilling contractors, Los Angeles, California; H. R. Bennett, Mills Bennett Production Co., Houston; C. N. Black, Magnolia Petroleum Co., Shreveport, Louisiana; Richard Bloss, president, International Derrick & Equipment Co. of Texas, Beaumont, Texas; A. M. Blow, vice president, Amerada Petroleum Corp., Tulsa; A. I. Brainard, president, Beaumont Iron Works, Beaumont, Texas; J. D. Brance, president, Brance-Krachy Company, Houston; R. A. Broomfield, Sr., Barnsdall Oil Company, Los Angeles, California; S. P. Brown, vice president, Hughes Tool Co., Houston; Al Buchanan, drilling contractor, San Antonio, Texas.

L. D. Cain, sales manager, Portable Rig Co., Houston; Frank Champion, Byron Jackson Co., Los Angeles; S. T. Childress, vice president and general manager, Rio Bravo Oil Co., Houston; W. L. Childs, vice president, Reed Roller Bit Co., Houston; Frank S. Corothers, branch manager, Norvell-Wilder Supply Co., Houston; H. J. Craig, sales manager, Baash-Ross Tool Co., Houston; John T. Crotty, president, Republic Supply Co., Houston; H. R. Cullen, president, Quintana Petroleum Co., Houston; W. H. Curtin, president, W. H. Curtin & Co., Houston.

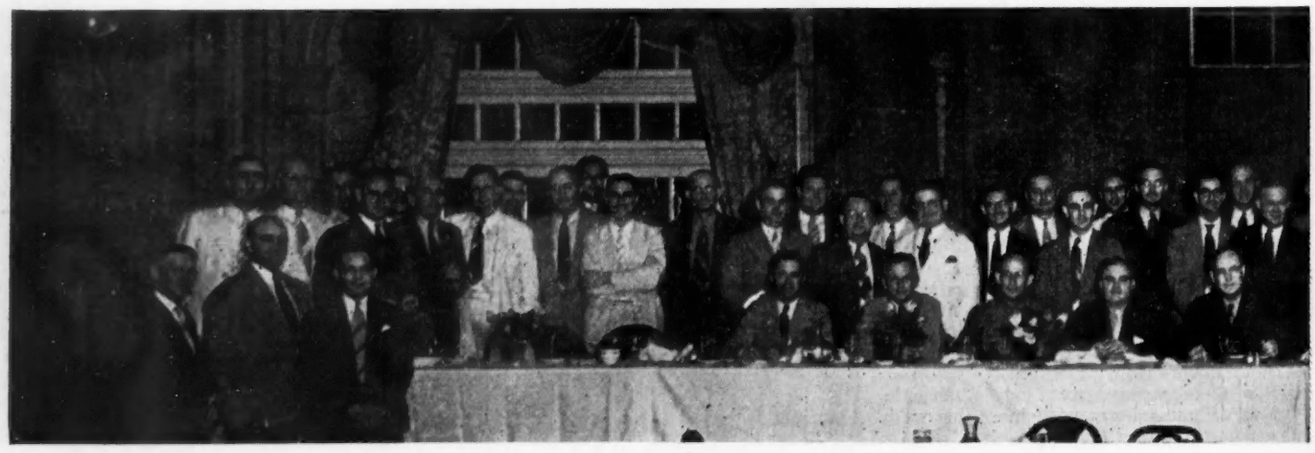
M. N. Dannenbaum, president, M. N. Dannenbaum Co., Houston; K. W. Davis, president, Mid-Continent Supply Co., Fort Worth; A. L. Derby, president, Derby Oil & Refining Co., Wichita, Kansas; T. J. Donoghue, vice president, The Texas Co., Houston; Ray L. Dudley, president, Gulf Publishing Co., Houston; H. John Eastman, president, Eastman Oil Well Survey Co., Long Beach, California.

E. E. Fogelson, Dallas, Texas; Julius Fohs, president, Fohs Oil Co., Houston.

Allen Galloway, vice president, Shell Petroleum Corp., Houston; E. W. Gildart, president, Norvell-Wilder Supply Co., Beaumont, Texas; C. L. Gladden, Magnolia Petroleum Co., Dallas; A. C. Glassell, Jr., oil operator, Shreveport, Louisiana; E. F. Goggins, president, Gulf Engineers, Inc., Houston; N. G. Guiberson, vice president, Guiberson Corp., Dallas; H. W. Gwilliam, vice president, Ohio Oil Co., Houston.

Harry C. Hanszen, oil operator, Houston; Dudley Hardcastle, Spang Chalfant,

Members and Officials of Oil-World Exposition at



Inc., Pittsburgh, Pa.; R. H. Hargrove, vice president, production and pipe line, United Gas Public Service Co., Houston; Herman Heep, Conroe Drilling Co., Corpus Christi, Texas; Frank L. Hereford, Murray Brooks Hardware Co., Lake Charles, Louisiana; George A. Hill, Jr., president, Houston Oil Co., Houston; Jack Hoelzel, president, Pittsburgh Screw & Bolt Corp., Pittsburgh, Pa.; Thomas Hughes, Sabine Supply Co., Orange, Texas.

Edwin M. Jones, oil operator, San Antonio, Texas; William Keck, president, Superior Oil Co., Los Angeles, California; O. W. Killam, oil operator, Laredo, Texas; E. M. Kinabrew, vice president, Standard Supply & Hardware Co., New Orleans, Louisiana; L. O. Koen, vice president, W-K-M Company, Inc., Houston; Harry Leonard, independent operator, Roswell, New Mexico; E. G. Leonardon, vice president, Schlumberger Well Surveying Corp., Houston; Gage Lund, manager, Standard Oil Co. of Texas, Houston.

Glenn H. McCarthy, president, Glenn H. McCarthy, Inc., oil operators, Houston; C. A. McCollum, division manager, National Supply Co., Houston; A. M. McCorkle, vice president, Stanolind Oil & Gas Co., Houston; D. B. McDaniel, owner, Gulf Coast Drilling & Production Co., Houston; A. T. McDannald, owner, Smith & McDannald, Houston; J. H. McEvoy, president, J. H. McEvoy & Co., Inc., Houston; D. T. McIver, Freeport Sulphur Co., New Orleans, La.; J. R. McWilliams, vice president, Standard Oil Co. of Louisiana, Shreveport, Louisiana.

W. R. Martin, Martin-Decker Corp., Los Angeles, Calif.; Robert J. Miller, owner, Robert J. Miller Co., Houston; H. W. Millmine, president, Texas Rubber & Specialty Corp., Houston; M. E. Montrose, division manager, Lane-Wells Co., Houston; C. B. Moore, Frick-Reid Supply Corp., Houston; J. E. Moore, district sales manager, Bethlehem Steel Corp., Houston; Daniel J. Moran, president, Continental Oil Co., Houston; Harry J. Morlang, division manager, National Tube Co., Dallas; Joseph S. Morris, Allen & Morris, San Antonio, Texas; W. J. Morris, president, Continental Supply Co., Dallas; R. A. Mueller, president, Gray Tool Co., Houston; Fred F. Murray, Oil Well Supply Co., Dallas.

C. E. Naylor, president, Maintenance Engineering Corp., Houston; J. W. Newton, vice president and manager refineries, Magnolia Petroleum Co., Beaumont, Texas; Lloyd Noble, Noble Drilling Co., Tulsa; Martin O'Brien, vice president, Republic Production Co., Houston; George O'Leary, president, Houston Oil Field Material Co., Houston.

R. W. Pack, division manager, Sun Oil Co., Beaumont, Texas; Harold N. Pardee, manager, Mid-Continent Division, The Texas Co., Tulsa; C. P. Parsons, vice president, Halliburton Oil Well Cementing Co., Duncan, Oklahoma; J. R. Parten, president, Woodley Petroleum Co., Houston; Louis Pearce, vice president and general manager, Texas Iron Works, Houston; Arthur J. Penick, Oil Center Tool Co., Houston; Tom Pew, vice president, General Crude Oil Co., Houston; M. W. Phelps, sales manager, Oil Well Supply Co., Houston; W. W. Plowden, Plowden Supply Co., Houston; L. H. Prichard, Anderson-Prichard Oil Corp., Oklahoma City; F. C. Prior, president, Stanolind Oil & Gas Co., Tulsa.

George L. Ratcliffe, general manager, Baroid Sales Co., Los Angeles, Calif.; Sid Richardson, independent operator, Fort Worth; J. B. Riley, Fluid Packed Pump Co., Los Nietos, Calif.; A. S. Ritchie, president, McPherson Drilling Co., Wichita, Kansas; Charles F. Roeser, Roeser & Pendleton, Fort Worth; Joe H. Russell, assistant vice president, Gulf Oil Corp., Houston; Cy Rubel, Union Oil Co., Los Angeles, Calif.

Ed Salrin, vice president, Tide Water Associated Oil Co., Houston; Floyd L. Senter, division manager, National Tank Co., Houston; W. D. Shaffer, owner, Shaffer Tool Works, Brea, Calif.; J. L. Shakely, general manager, Frick-Reid Supply Co., Tulsa; W. B. Sharp, president, Mission Manufacturing Co., Houston; Glen Skinner, vice president, Black, Sivalls & Bryson, Inc., Oklahoma City, Oklahoma; Nowery J. Smith, president, Nowery J. Smith Supply Co., Houston; D. R. Snow, vice president, Barnsdall Oil Co., Tulsa; Hugh M. Stalcup, vice president, Skelly Oil Co., Tulsa; Tobe Stewart, The Texas Company, Shreveport, Louisiana; George W. Strake, president, Strake Petroleum Inc., Houston; John R. Suman, vice president, Humble Oil & Refining Co., Houston; Chase Sutton, division manager, Pure Oil Company, Houston; W. G. Swaney, sales manager, Kerotest Manufacturing Co., Pittsburgh, Pa.; T. E. Swigart, vice president, Shell Petroleum Corp., Houston.

J. H. Teer, general manager, Layne & Bowler Co., Houston; F. H. Thrailkill, district manager, Continental Supply Co., Houston; Edgar Tobin, Edgar Tobin Aerial Surveys, San Antonio, Texas; H. E. Treichler, Texas Gulf Sulphur Co., Newgulf, Texas; W. C. Trout, president, Lufkin Foundry & Machine Co., Lufkin, Texas; E. R. Turner, manager, Pan American Production Co., Houston.

J. A. Vickers, president, Vickers Petroleum Co., Wichita, Kansas; J. M. West, owner, West Production Co., Houston; Wallace Wilson, president, Wilson Supply Company, Houston; John A. Worthington, assistant to president, director of sales, American Hammered Piston Ring Co., Baltimore, Maryland.

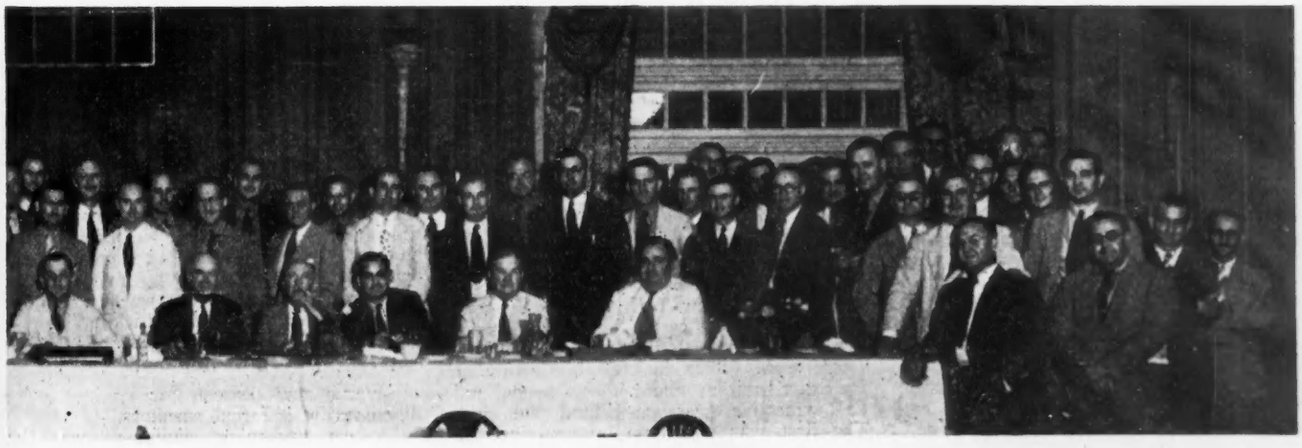
Name I.P.A.A. tax and advisory committee

Chas. F. Roeser, president of the Independent Petroleum Association of America, has announced the personnel of the Tax Policy and Advisory Committee, one of the standing committees of the association, with E. H. Moore, president, E. H. Moore, Incorporated, Tulsa, Oklahoma, as chairman; and J. C. Hunter, president, West Central Texas Oil & Gas Association, Abilene, Texas, as vice chairman.

The following are the members of this committee: J. D. Collett, president, General Mid-Continent Oil & Gas Association, Washington, D. C.; J. A. Aylward, Aylward Production Company, Wichita, Kansas; E. C. Moriarty, vice president, Derby Oil Company, Wichita, Kansas; L. M. Moffitt, president, Louisiana-Arkansas Division, Mid-Continent Oil & Gas Association, Shreveport, Louisiana; F. A. Calvert, president, Oil & Gas Association of Michigan, Saginaw, Michigan; Charles E. Clowe, president, Southern Oklahoma Oil & Gas Association, Ardmore, Oklahoma; R. E. Parr, comptroller, Phillips Petroleum Company, Bartlesville, Oklahoma; J. G. Puterbaugh, president, McAlester Fuel Company, McAlester, Oklahoma; E. H. Balch, Barnsdall Oil Company, Tulsa, Oklahoma; Walter A. Jones, vice president, Plymouth Oil Company, Pittsburgh, Pennsylvania; Al Buchanan, Al Buchanan Drilling Company, San Antonio, Texas; A. A. Seeligson, president, Transwestern Oil Company, San Antonio, Texas, and C. P. McGaha, president, Texas Division, Mid-Continent Oil & Gas Association, Wichita Falls, Texas.

"The function of this committee is to determine the policy of the Independent Petroleum Association of America with reference to national tax matters in the petroleum industry and to cooperate with other oil and gas associations within the industry who are working specifically on taxation matters," said Mr. Roeser.

Annual Meeting Last Week in Houston



A. S. M. E. Meeting

Diesel engine progress, operation and application keynote of Oil and Gas Power Division convention

The abundance of papers on Diesel engines that were presented at the eleventh national Oil and Gas Power meeting of the American Society of Mechanical Engineers, held in Dallas last week, clearly recognized the growing importance of this type of prime mover. Recent developments in Diesel engines, their widespread application, and existing problems were discussed by various speakers, whose papers are abstracted in the following paragraphs. Other subjects were presented on the program also, and these are abstracted too.

Diesel Maintenance

The importance of a trained personnel, adequate records, and standardization in Diesel engine maintenance was discussed by E. R. Spencer, assistant chief engineer, Texas Pipe Line Company, Tulsa.

He asserted that the back-bone of such work is a well-trained cooperative personnel, with proper leadership paramount. "The individual who is to direct activities so involved, should have a very intimate knowledge of engineering fundamentals. It is essential that his imaginative and creative powers are developed to a high degree. These powers must be shot through with the practicability factors. * * * It is a place for one with a wealth of experience; one having the ability to remould that experience and apply it to existing problems. Another very essential prerequisite for the individual who is to lead a Diesel engine maintenance organization is a generous supply of the spirit of cooperation."

Continuing Spencer also pointed out the advantages of training subordinate personnel. Besides apprentice training he suggested required study programs, periodic conferences, demonstrations and assignments of special topics or problems for study and report as assets to training plans.

It is imperative, Spencer stated, that the individuals responsible for maintenance work be kept informed as to the mechanical condition and problems encountered. "A set of systematic and reliable records must be used to provide authentic information. The form and frequence of these reports will vary with each organization." He presented several different record forms.

Diesel Developments

In summing up the advantages of the high-speed Diesel engine and the problems involved in its development and maintenance, C. L. Cummins, president, Cummins Engine Company, Columbus, Indiana, declared that "it would seem that the satisfactory performance in the field today indictates that not only is the high-speed engine here to stay, but that still higher speed, lighter weight and more flexibility in revolutions per minute will be demanded in the future, unless history fails to repeat itself.

Cummins traced the development of the Diesel engine from a heavy-duty, bulky slow-speed unit down to the present small-bore high-speed compression-ignition engine. "The history of the Diesel engine," it was said, "has been one of constantly lowering the weight, decreasing the bulk, increasing the flexibility and lowering the cost per horsepower. Along with these worthwhile changes also came better performance, lower fuel consumption, more flexibility and a quieter operating engine."

That such progress has materially broadened the field of application was pointed out in Cummins' paper. "The oil country installations are a good example of this," he continued, "for they are usually of a temporary nature, and every pound of weight saved is a decided advantage. This weight must be transported frequently over virgin prairie where no road exists, often a considerable distance from railroads, and possibly in states where extremely low truck-load limits are enforced."

Electric Pumping

There is a noticeable trend toward use of electric motors for pumping oil wells, it was declared by W. H. Stueve, Oklahoma Gas and Electric Company, Oklahoma City. He pointed out that a survey made several years ago disclosed that but 6 percent of the wells then being pumped employed motors, whereas a more recent survey estimated that 35 percent of the wells to go on the pump in 1938 would be equipped with electrical units. This would raise the total percentage of electrified wells to 7.5 percent of those dependent on artificial lift, he declared.

Moreover, he asserted, "Further proof as to the trend toward the use of motors for pumping can be offered in the Fitts field in Oklahoma, where over 500 wells out of 889 total wells in the field were electrified in 1937."

Stueve declared that the electric motor "has the advantage of low initial cost, practically no maintenance, and the power impulses and vibrational stresses are reduced almost to zero."

He told how one electrical manufacturer had made some changes in rotor design to increase the slip from the conventional three percent to about 10 or 11 percent. The changes were made so as to reduce the peak loads previously encountered. In discussing this point Stueve stated. "While the peaks have been reduced perhaps 40 percent, the integrated power input is also reduced only three to eight percent of the former integrated power input with a standard-slip induction motor. This, of course, is an improvement over the conventional-slip motor, but the well requires careful counterbalancing to effect these reductions."

Piston and Liner Wear

After enumerating a large number of actual cases of piston ring and liner wear, Harte Cooke, American Locomotive Company, Auburn, New York, came to the conclusion that there were "two main causes of steam-engine piston ring and liner wear. These were (1) a lack of lubrication at the exact location where it was needed and (2) excessive pressure behind the ring. The first was overcome by applying the lubricating oil directly to the working surface of the cylinder, and the second by arranging the ring to balance or eliminate the excessive pressures."

Engine Vibrations

W. Rosenzweig, president of Korfund Company, Long Island, New York, presented a paper on the "Theory, Application and Benefits of Engine Vibration Isolation."

He concerned himself with the design of machine foundations that would neutralize in a resilient manner the dynamic forces acting upon them. The purpose being to provide an elastic cushion for the foundation that would reduce to a minimum the transmission of the free forces or impacts set up by the operation of the machine. "The accepted method," he continued, "is to interpose a resilient medium between the machine and structure on which it rests. While it is preferred, from a standpoint of machine life and operating efficiency, to support a machine elastically instead of bolting it rigidly to a foundation, merely setting it on any elastic medium will not bring proper results. The elastic foundation must be designed carefully according to definitely established rules."

He explained some of these rules and illustrated their application with actual foundation designs.

From the standpoint of vibration control and for dynamic reasons, Rosenzweig asserted the following principal points must be observed in the design and arrangement of spring suspensions: (1) large frequence ratio—at least 3:1; (2) minimum damping; (3) carefully calculated stabilizing mass; and (4) corrected selected isolating materials.

Diesel Fuel Testing

Any study of Diesel fuel specifications, declared G. L. Stetson, senior research engineer, Diesel Engine Division, Shell Petroleum Corporation, Wood River Illinois, who was another speaker, "reveals clearly the need for further detailed consideration of the significance of various properties and the mass of limits now specified by the ever-increasing number of Diesel engine designers."

After outlining briefly the developments now taking place on the subject of Diesel fuel testing, he discussed a number of problems now existing.

Stetson pointed out that work "is being done or is needed on the following four points in order that our knowledge of Diesel engine's food may assist in making it digestible to the average medium and high-speed engine of the future:

"1. Work is needed on methods of filtering Diesel fuels, principally in order to avoid wax clogging at low temperatures.

"2. The minor details connected with the measurement of cetane number need clearing up and some further consideration must be given the significance of this specification.

"3. A suitable test for the rating of the volatility of blended Diesel fuels is required.

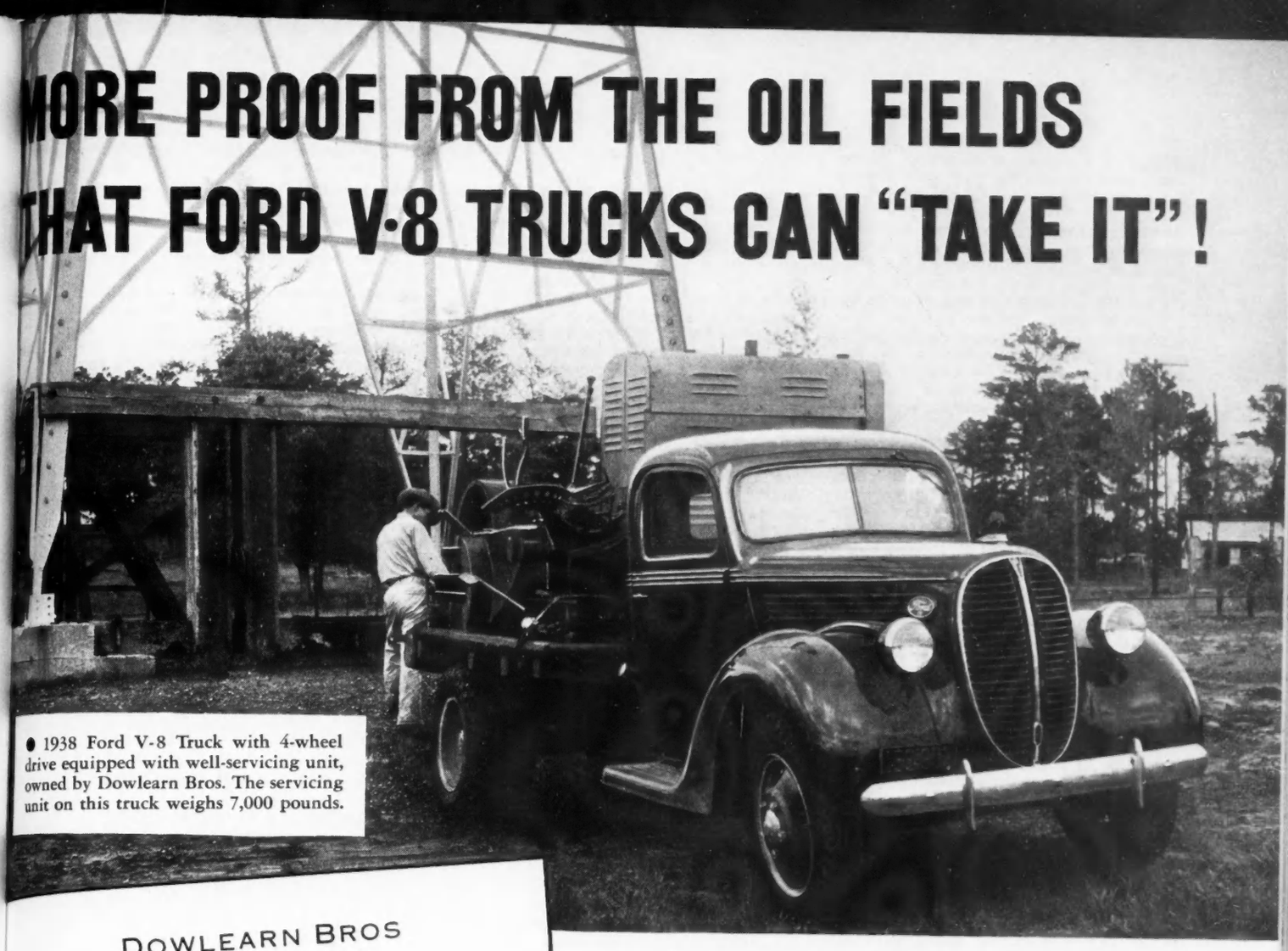
"4. The significance of this property in relation to incomplete combustion requires thorough study and combined efforts must be made to enable the high-speed Diesel engine to digest fuels containing a reasonable proportion of heavy residue without fuel nozzle or piston ring sticking."

New Equipment

Several new devices for engines were discussed by different speakers.

Modern governing equipment was the

MORE PROOF FROM THE OIL FIELDS THAT FORD V-8 TRUCKS CAN "TAKE IT"!



● 1938 Ford V-8 Truck with 4-wheel drive equipped with well-servicing unit, owned by Dowlearn Bros. The servicing unit on this truck weighs 7,000 pounds.

DOWLEARN BROS
P. H. (HENRY) DOWLEARN MANAGER
P. O. BOX 670
HENDERSON, TEXAS

April 1st, 1938

Ford Motor Company
Dallas, Texas

Gentlemen:-

As you know our Company has been using Ford equipment along with other makes.

During 1937 we replaced our worn units with Fords and the results were such that we intend to replace the others with Fords in our Fleet, and have added two new 1938 models so far this year.

We are engaged in the oil well development work in the East Texas, Talco and Lisbon Fields and we know this work requires a piece of real equipment to be able to "take it".

Yours truly,

DOWLEARN BROS.

By P. H. Dowlearn

That's why Dowlearn Bros. are replacing ALL their units with Ford V-8's!

DOWLEARN BROS. have had such excellent results with Ford V-8 equipment in the past that they are replacing other units as they wear out with new Ford V-8's. They figure that since they have done so well with previous Ford Trucks they'll do even better with new ones!

They're right! The 1938 Ford V-8 Trucks are the finest Ford has ever built. From their 85 H.P. V-8 engines—now in their seventh year of success—to their full-floating rear axles these units are right at home in the oil fields. Down to their last detail of construction they are designed to "take it" —and keep on coming back for more!

If that's the kind of truck performance you're looking for, see your Ford Dealer!

Some features of the Ford V-8 Trucks—check them!

85 H.P. V-8 ENGINE PERFORMANCE—smoother, more economical than ever.

FULL-FLOATING REAR AXLE—A money saving feature and an important factor in Ford Truck dependability.

MORE RUGGED CONSTRUCTION—increased strength for bodies, frames, front wheel spindles and other vital parts.

NEW WHEELBASE LENGTHS—134 inches (increased from 131½ inches), the 157-inch, a new line of 122-inch "One-Tonners" and 112-inch commercial car.

NEW FRAME WIDTHS—34-inch width now make special body mounting easier than ever.

WIDER CHOICE OF UNITS—more body and chassis types, wide selection of optional equipment.

FORD V-8 TRUCKS

subject of a paper by Willard J. Whitehead, sales engineer, Woodward Governor Company, Rockford, Ill. He told how, until the last five years, development of speed regulating equipment for Diesel and other internal combustion engines had lagged behind that of governors for other types of prime movers. He then explained the development of a new type of governor.

Cooling tower fundamentals and their application to Diesel and gas engine cooling was the subject of Gustave J. Bischof, consulting engineer, The Cooling Tower Company, Inc. New York, N. Y.

"Satisfactory oil and gas engine cooling is required," the speaker stated, "for efficient operating and low maintenance costs. Determination of the proper amount of heat dissipation is the first consideration. Recent advances in engine design have enabled more of the heat input to be converted to energy at the crankshaft, thereby diminishing the heat lost to cooling water. Engine efficiencies have steadily risen from 28 to 38 percent."

A new pressure indicator for Diesel engines has been developed. It was described by K. J. DeJuhasz, associate professor of engineering research, The Pennsylvania State College. This indicator is intended for moderately high-speed engines of fairly large output. He is conducting research work that is expected to benefit makers and users of indicators alike, by clarifying the capability and limitation of the various types when used under different operating conditions.

DeJuhasz stated that it has been "recognized that the satisfactory indicating of Diesel engines presents some difficult problems which exist only to a far lesser degree in the indicating of steam engines. From the solution of these problems the benefit of increased reliability of indicator diagrams and data can be expected, which should promote the further development of Diesel engines and their more satisfactory operation."

Oil industry helps state of Texas, declares McGaha

The amount of money spent in Texas by the petroleum industry last year exceeded the total value of oil and its by-products, according to Charles P. McGaha, president of the Texas Mid-Continent Oil and Gas Association, in an address before the Texas Chamber of Commerce Managers Convention, in session at Marshall, Texas, June 2.

"It has often been said that much of the returns from the Texas oil industry goes outside of the state. Nothing could be further from the truth," said McGaha. He cited official statistics which show that total expenditures of the Texas petroleum industry last year amounted to $760,822,326, whereas the total value of crude oil and petroleum by-products amounted to $753,000,000, leaving a deficit of eight million dollars.

"The economic significance of oil in comparison with other industries of the state is emphasized by the fact that the value of crude oil production alone last year was 50 percent more than the total value of all farm crops in the state. It practically equaled the combined value of all crops, live stock and live stock products marketed. Cotton, once the principal source of Texas wealth, approximated only 30 percent of the value of Texas' biggest money crop—oil," said McGaha.

He cited interesting regional statistics which show that the Texas oil and gas industry directly affects the economic welfare of every section of the state. "If you live in Texas," he said, "you are in the oil business." Analysis of factors contributing to the wealth of various sections of the state, presented by McGaha, showed that in West Texas, comprising 48 counties all of which are under development, the petroleum industry produced 63.7 percent of all the wealth in that area last year. In the Panhandle area, comprising 27 counties, petroleum produced 40 percent of the wealth in the area; in Southwest Texas, embracing 22 counties, the petroleum industry produced 51 percent of all the wealth in that area; in the Gulf Coast, comprising 27 counties, 44.4 percent of the wealth was contributed by petroleum; in North Texas, embracing 21 counties, 21 percent of the wealth was produced by petroleum; in West Central Texas, embracing 21 counties, petroleum contributed 38.8 percent of all the wealth of that area; in East Texas, a 37 county area, petroleum accounted for 78.9 percent of all the wealth produced in that area last year; in East Central Texas, a 10 county area, 30 percent of all the wealth produced came from oil; in South Central Texas, embracing 27 counties, 21 percent of all the wealth produced came from petroleum.

"More than 300,000 persons are employed directly or indirectly by the Texas petroleum industry," said McGaha, "and this means that at least 1,200,000 persons in Texas depend upon the state's oil and gas business for their livelihood. If we include those who receive lease and royalty payments and those who are employed by industries closely allied with the oil and gas business, it becomes apparent that 2,500,000 persons, or 40 percent of the Texas population, share directly or indirectly in cash disbursements made by the oil industry and its allied branches. This benefit must therefore reach down into the remotest and smallest hamlet in the state, however far removed from the producing fields."

Illinois-Indiana Meet

Importance of recent developments and the future possibilities of the two states topics at annual Indiana-Illinois Petroleum Association conference

Approximately 350 oil men attended the sixth annual conference of the Illinois-Indiana Petroleum Association held June 4 at the Crawford County Country Club at Robinson, Illinois. C. C. Carroll, manager of the Illinois division of Ohio Oil Company, Marshall, presided over the opening session, and William Bell, association president, welcomed visiting oil men.

Mount Carmel Fault Described

Prof. Ralph Esarey, Indiana state geologist, presented a paper on "The Mt. Carmel Fault of Indiana" which he prepared in conjunction with Richard Freed, now on the geological staff of The Texas Company at Midland, Texas. He described the fault, which is about 52 miles in length as extending from northeastern Monroe County near the Monroe-Morgan line, southward and slightly eastward through Monroe County and Lawrence County, then into Jackson County just east of Leesville, and thence southward into Washington County for a distance of about 6 miles. It is the largest and most pronounced feature of its type in Indiana and is similar in characteristics to many of the smaller faults.

Fifty-eight wells have been drilled along or near the fault since 1912, Prof. Esarey said. Twenty wells were gas wells and 6 were small oil wells, the latter usually accompanied by gas. In the Unionville field, 14 gas wells have been drilled in the Devonian-Silurian horizon, at an average depth of 850 feet and with an average open flow of about 750,000 cubic feet. At Leesville, 3 gas wells have been drilled upon the top of the structure, and 4 wells upon the flanks searching for oil, but commercial production was not obtained. North of Heltonville, near the Monroe-Lawrence County line, 3 gas wells were drilled, producing between 1 and 3 million cubic feet each. Two of them were continued to the Trenton and abandoned after good shows of oil. Failure to make commercial wells of tests on structure after finding saturation in either the Devonian-Silurian horizon or the Trenton was attributed largely to lack of porosity and permeability.

No Test of St. Peter

No tests have been made in any part of this area to the St. Peter horizon, some 700 to 800 feet beneath the top of the Trenton, Professor Esarey added. Total depth would be 2400 to 2700 feet, depending upon topography and locations along the fault. Since the fault itself is apparently well sealed, and the local domes along it have good closure to the north and east, favorable conditions are presented for testing the St. Peter horizon.

Gail F. Moulton, vice president of Ralph E. Davis, Inc., New York, presented the second paper on "Significance of New Discoveries in Illinois." The author discussed the geology and early developments in the Basin area, which includes parts of Illinois, Indiana and Kentucky. While it was generally known eight years ago that Michigan and Illinois were sufficiently similar from a geological standpoint to warrant exploration in the Basin area of the latter state, the severity of the depression and the low price of crude prevailing because of overproduction in East Texas delayed the start of such exploration until late in 1935.

The methods of 30 years ago gave satisfactory results in the large and prolific eastern Illinois field, Moulton pointed out, and are shown to be the

result of the very large area of the field and the lack of serious drilling problems. The new methods recently brought into the basin, including use of the reflection seismograph in locating structures, rotary drilling equipment with accompanying core analysis, electrical logging, shooting and acid treatment, are essential for the profitable discovery and exploitation of the remaining fields of small average size. As exploration continues, modifications of seismic, drilling and well completion technique may be expected to result in even more satisfactory operations. Large areas in which oil fields will probably be discovered in Illinois, Indiana and Kentucky remain to be explored and developed.

The real significance of the recent developments in the Illinois basin is that profitable development of the type of production to be found there has been made possible through the application of modern methods, the speaker declared. Important though the new reserves are, the methods used in their discovery are more important, for one may confidently anticipate the future discovery in a similar manner of a large number of similar pools. Although these new pools may not produce an amount of oil equal to that already recovered from the old fields in the Basin, in the aggregate their oil reserves should prove to be substantial.

Bell on Sub-McClosky

Nearly all of the oil and gas so far produced in Illinois has come from strata in the uppermost one-third of the geologic column of sedimentary rocks present in the area, said Dr. A. H. Bell, geologist and head of the oil and gas division of the Illinois State Geological Survey, Urbana. His paper was captioned "Possible Producing Strata Below the McClosky."

The lowest strata which have so far yielded large production of oil are the McClosky "sand," the Westfield "lime" and the Martinsville "lime," all of which are near the top of the Lower Mississippian or Iowa series, declared Dr. Bell. In view of the fact that important quantities of oil are obtained from pre-Mississippian strata in other states, for example the Devonian system in Michigan and the Ordovician system in the Mid-Continent area, the question of the oil possibilities of these systems in the Illinois Basin region is of interest to the oil industry.

In prospecting for oil in the Devonian or deeper strata it cannot be assumed that their structure is necessarily parallel to that of overlying Pennsylvanian or Mississippian. It is likely that future deeper drilling will reveal increasingly complex structure downwards in the geologic column through the Devonian, Silurian and Ordovician systems. Before sufficient deep drilling is done in the Basin area, however, the only available clues to the structure of the deeper strata are knowledge of the structure of shallower key beds and the results of geophysical surveys. Recently acquired data are revealing important differences between the structure of the Chester series of the Upper Mississippian and the Pennsylvanian, thus emphasizing the importance of the pre-Pennsylvanian unconformity.

In planning a program of exploration of the deeper strata in the Illinois

[*Continued on page 81*]

Market Situation

Gasoline price advance features strengthening of markets . . . Low allowables reduce crude stocks but high runs to stills maintain gasoline levels

Markets continue steady with crude output low

The markets are continuing firm, with crude prices steady, gasoline prices improving, and quotations on other refined products unchanged.

Meanwhile, the outlook remains promising, as the stable conditions now prevailing likely will continue at least for several weeks.

The present relatively good market situation prevails largely through benefit of the exceptionally strict curtailment of crude oil production in recent weeks, under unusually low allowables in the leading producing states.

Prices Are Firm

This control has greatly strengthened the crude oil markets, and most of the fears of some weeks ago regarding possible crude price reductions have been dissipated.

The stronger crude market, in turn, has bolstered the markets for refined oils. Gasoline prices at the refineries now are from ⅛ to ¼-cent a gallon better than a few weeks ago. The low octane grades, particularly, have improved.

However, the activity at the refineries has not been brought down as much as that in the fields, runs being still approximately in line with current consumption of products. It has been considered desirable to achieve a reduction of runs below prevailing requirements, in order to permit some withdrawals from excess storage of gasoline and other products.

Thus gasoline stocks are not being brought down as much as desired because of the continued relatively large output of newly finished material at the plants.

Further Caution Needed

While the gasoline prices have improved, notwithstanding, it is indicated that further important improvement will not occur unless there is more definite progress in reducing the gasoline inventories to more economic levels. Consequently, figures on gasoline stocks likely will be watched with unusual interest in coming weeks.

There is also some danger that recent success in curtailing crude oil production may lead to a not altogether justified feeling of security in the industry, and to a resultant dangerous let-down of curtailment efforts.

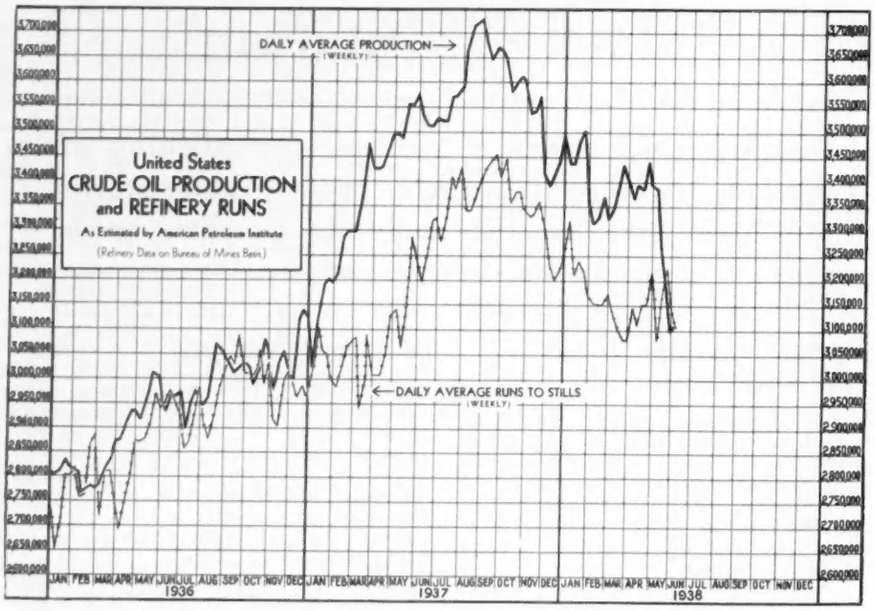
The industry is not safely out of the

Trends of United States Production and Stocks

Figures are from American Petroleum Institute weekly reports, except those on crude stocks, which are from Bureau of Mines weekly reports

WEEK ENDED	Crude Oil Production (Barrels Daily)	Crude Runs to Stills (Barrels Daily)	Crude Oil Stocks (Barrels)	Gasoline Stocks (Barrels)	Gas & Fuel Oil Stocks (Barrels)
April 24, 1937	3,496,400	3,125,000	300,737,000	82,303,000	94,100,000
May 29	3,573,000	3,245,000	306,445,000	78,758,000	96,139,000
June 26	3,529,600	3,235,000	307,679,000	75,427,000	100,395,000
July 31	3,591,900	3,425,000	308,250,000	70,872,000	108,209,000
August 29	*3,731,450	3,425,000	309,506,000	66,997,000	112,111,000
September 25	3,666,300	*3,455,000	307,974,000	65,620,000	116,472,000
October 2	3,647,450	3,400,000	309,036,000	65,266,000	117,076,000
October 30	3,602,950	3,345,000	307,140,000	66,836,000	121,070,000
November 27	3,425,800	3,325,000	304,156,000	68,544,000	121,616,000
December 25	3,492,600	3,245,000	303,294,000	74,437,000	118,659,000
January 1, 1938	3,436,600	3,320,000	303,468,000	77,291,000	118,660,000
January 29	3,357,650	3,170,000	304,286,000	84,844,000	118,793,000
February 26	3,322,800	3,170,000	305,167,000	90,719,000	120,958,000
March 19	3,322,550	3,080,000	306,380,000	*93,192,000	122,067,000
March 26	3,405,600	3,080,000	307,557,000	92,858,000	122,979,000
April 30	3,396,150	3,215,000	307,147,000	91,339,000	128,270,000
May 28	3,098,650	3,150,000	301,583,000	87,946,000	134,315,000
June 4, 1938	3,107,950	3,105,000	.....	87,767,000	134,632,000
June 5, 1937	3,538,150	3,195,000	†305,745,000	77,494,000	97,602,000
Change in past year	−12.2%	−2.8%	−1.4%	+13.2%	+37.9%

* All time peak. † Stocks, May 29, 1937.



woods, and if the present stable conditions are to be maintained, there must be a continued close watch on the trends of demand and on oil inventories, to see if crude production, refinery runs, and stocks are being held consistently in proper relation to consumption.

Statistical situation remains unsatisfactory

The petroleum industry's statistical situation continues, as in recent weeks, comparatively good, yet impaired by several factors.

On the favorable side are these circumstances: (1) exceptionally strict control of crude oil production, (2) partially successful restriction of refinery output, (3) the relatively low level of crude oil stocks.

On the unfavorable side, however, are these factors: (1) unfavorable trends of oil consumption, in comparison with earlier years, (2) excessive gasoline stocks, (3) disappointing progress in reducing the gasoline inventories, (4) surplus storage of fuel oil.

Production Is Low

Crude oil production in the week ended June 4, averaging 3,107,950 barrels daily, was up slightly from the unusually low level of the previous week but 12.2 percent lower than in the corresponding week of last year. The relatively small well output reflected the exceptionally strict allowables currently in effect in most of the larger producing states.

Refinery Runs Down

Refinery activity was materially curtailed in the week ended June 4, when runs of crude to stills averaged 3,105,000 barrels daily, or 45,000 barrels a day less than in the previous week. The new rate of operations was 2.8 percent under that at the corresponding time last year.

This refinery activity was fairly well in line with the prevailing market requirements for petroleum products, which are slightly lower than those at this time last year. However, the restraint was not in line with the present objective of holding refinery output somewhat under current market demand, in order to bring about reductions of excessive refined oil inventories.

Crude Stocks Moderate

In consequence of the drastic curtailment of crude oil production in recent weeks, the stocks of crude oil have been brought down materially since the beginning of May, and they now are a little lower than at this time last year, being not far above the 300,000,000 barrel level.

The crude oil inventories in the United States now are not a great deal larger than at the end of January, 1937, when the total of 286,759,000 barrels was the lowest on hand since the early 1920's.

Gasoline Situation

Although gasoline stocks normally decline considerably each week at this season of the year, with consumption relatively large, they were reduced only 179,000 barrels in the week ended June 4, coming down to 87,767,000 barrels. In the corresponding week last year the gasoline stocks were brought down 1,264,000 barrels.

The stocks on hand June 4 this year were 13.2 percent larger than those held on June 5 last year.

This margin over a year ago in the gasoline inventories is not justified by the current trends of demand, which are running a little under those of last year.

Fuel Oil Stocks

Fuel oil stocks normally increase at this time of the year, and they did so in the week ended June 4, rising 317,000 barrels, or to 134,632,000 barrels. However, the continuing additions to storage at this juncture are making a serious oversupply of fuel oil worse. The stocks of 134,632,000 barrels on hand June 4 were 37.9 percent larger than those held one year previously. Yet the demand for fuel oil lately has been around 10 percent lower than at this time last year, reflecting the slower industrial and commercial activity now prevailing.

CRUDE OIL PRICES

Complete tables of prices paid for crude oil at the well in principal fields is shown on page 66 and 68 in the issue of June 6. This schedule will appear only in the first issue of each month.

Gasoline advances feature industry's price situation

Prices in the oil industry, from well to service station, continue generally firm, with prospects of remaining steady in the immediate future and of showing improvement in some instances. This favorable situation follows a week in which gasoline prices were advanced ⅛ cent a gallon on various grades in the Mid-Continent.

The low octane gasolines are particularly strong, having advanced ⅛ cent a gallon in the past week in both the Oklahoma-Kansas and Chicago tank car markets. But the high octane materials also are exhibiting strength, and the minimum quotations likewise are up ⅛ cent.

Fuel oil prices have continued largely unchanged, as have kerosene and tractor fuels.

Natural Gasoline

Natural gasoline, grade 26-70, was priced generally in the Mid-Continent markets f.o.b. refineries at 2⅛ cents a gallon, and sales were reported at 2 cents f.o.b. Breckenridge, Texas.

Gasoline at Refineries

U. S. motor gasoline ranged in the Oklahoma market last week about as follows: 62 octane and below, 4⅜ to 4½ cents a gallon; 63 to 66 octane, 4⅝ to 4¾ cents; 67 to 69 octane, 4¾ to 5 cents; 70 to 72 octane, 5⅛ to 5½ cents.

Corresponding prices in the Chicago markets were: 4¼ to 4½ cents, 4⅜ to 4⅝ cents, 4⅝ to 4⅞ cents, and 4¾ to 5⅛ cents.

In East Texas the most common gasoline, 60-62, 400 end point, was priced generally around 4⅛ cents a gallon.

Kerosene prices f.o.b. Oklahoma refineries ranged from 4⅛ to 4¼ cents a gallon for the 41-43 water white grade, and from 4⅜ to 4½ cents for the 43-44

Ohio gasoline tank car price hike

Standard Oil Company of Ohio increased its posted tank car gasoline prices for 70-72 octane grade ⅛-cent a gallon after a similar advance had been made in the Oklahoma market June 6.

water white grade; and corresponding prices in the Chicago market were 4 to 4¼ cents and 4⅛ to 4½ cents.

Fuel oil prices were generally the same as in the previous week. In the Chicago market range oil was priced from 3¾ to 3⅞ cents a gallon. The No. 1 white oil was priced from 3⅝ to 3⅞ cents and No. 1 straw from 3⅜ to 3¾ cents. No. 2 straw was 3¼ to 3½ cents. No. 3 oil was 3⅛ to 3¼ cents. No. 4 was $1.05 to $1.10 a barrel to domestic consumers and 90 cents to $1.05 to industrial buyers. No. 5 oils were 65 to 75 cents for domestic and 55 to 65 cents for industrial sales. The No. 6 oil was quoted to the usual industrial customers at 35 to 50 cents a barrel.

U. S. Mineral output greater during 1937

Petroleum and petroleum products, recording new all time peaks of production in 1937, were conspicuous for that reason in the Bureau of Mines annual report on minerals. The bureau has stated that production of the basic metals, copper, lead, zinc, and iron, was considerably higher in 1937 than in 1936. Output of silver and gold also showed an increase, as did that of bituminous coal. The numerous important non-metallic minerals also were produced in 1937 generally in larger quantities than in 1936. Crude petroleum production was reported 16 percent higher in 1937 than in 1936.

Crude Production

Nation's output rises to 3,141,095 barrels daily; four key states responsible for increased output.

After a continuous drop in production for several weeks, daily crude output in the United States rose during the week ended June 11, when it averaged 3,141,095. This was 54,960 barrels a day higher than in the previous week, but still 192,205 barrels lower than the federal estimate of requirements for the month of June.

Responsible for the comparatively sharp rise was additional output in Oklahoma, Texas, Louisiana and Kansas, which greatly exceeded a small decline in California.

Allowables Exceeded

Oklahoma showed a gain of 46,350 barrels, the average output having been 475,750 barrels a day. This was 32,550 barrels a day less than the Bureau of Mines recommendation, but 70,750 barrels more than the state allowable.

Texas output was up 1600 to 1,193,850 barrels daily, which was 135,450 barrels less than the indicated demand and 34,137 barrels more than the allowable prescribed by the state.

Louisiana also slightly increased its production, recovering 257,175 barrels daily, which was 1775 barrels more than in the previous week, 7175 more than the Bureau of Mines estimate, and 6700 barrels more than the state allowable.

Kansas last week averaged 142,625 barrels daily, which was 340 barrels more than in the previous week, 29,675 less than the federal allocation, and 17,375 barrels less than the state allowable.

California production declined during the past week to 670,000 barrels, having curtailed its production by 2900 barrels a day. However, daily output exceeded the Bureau of Mines recommendation by 20,000 barrels and the recommendation of the Central Committee of California Oil Producers by 50,000 barrels daily.

United States Crude Oil Production

Estimates Compiled by The OIL WEEKLY

DISTRICT OR STATE	Bureau of Mines Recommendation (Daily in June)	State Allowable in June	BARRELS DAILY FOR WEEK ENDED June 11	June 4
TEXAS—				
Texas Panhandle	.....	.....	62,050	66,100
North Texas	.....	.....	74,500	73,400
West Central Texas	.....	.....	27,800	28,050
West Texas	.....	.....	179,300	178,100
East Central Texas	.....	.....	94,100	93,200
East Texas Field	.....	.....	364,900	364,500
South Texas	.....	.....	204,900	204,100
Texas Gulf Coast	.....	.....	186,300	184,800
Total Texas	1,329,300	1,159,713†	1,193,850	1,192,250
CALIFORNIA—				
Long Beach	.....	.....	58,600	57,700
Santa Fe Springs	.....	.....	35,700	35,800
Huntington Beach	.....	.....	34,200	34,600
Dominguez	.....	.....	27,700	27,700
Ventura Avenue	.....	.....	36,000	35,400
Midway-Sunset	.....	.....	51,400	53,800
Kettleman Hills	.....	.....	68,600	72,600
Wilmington	.....	.....	94,400	91,000
Others	.....	.....	264,200	264,300
Total California	650,000	620,000*	670,000	672,900
OKLAHOMA—				
Oklahoma City	.....	.....	119,500	89,125
Seminole Area	.....	.....	104,125	90,100
Fitts	.....	.....	42,625	41,200
Others	.....	.....	209,500	208,975
Total Oklahoma	508,300	405,000	475,750	429,400
LOUISIANA—				
North Louisiana	.....	.....	77,875	79,300
South Louisiana	.....	.....	179,300	176,100
Total Louisiana	250,000	250,475	257,175	255,400

DISTRICT OR STATE	Bureau of Mines Recommendation (Daily in June)	State Allowable in June	BARRELS DAILY FOR WEEK ENDED June 11	June 4
KANSAS—				
Burrton-Haven	.....	.....	10,000	9,950
Russell County	.....	.....	23,425	21,230
Silica	.....	.....	10,405	9,130
Others	.....	.....	98,815	101,975
Total Kansas	172,300	160,000	142,645	142,285
NEW MEXICO	108,300	91,000	90,800	91,200
MICHIGAN	54,000	.....	53,800	51,800
ARKANSAS	48,300	.....	42,275	42,150
MOUNTAIN STATES—				
Wyoming	49,700	.....	51,450	51,050
Montana	12,700	.....	14,300	13,200
Colorado	5,000	.....	4,250	3,750
Total Mountain States	67,400	.....	70,000	68,000
EASTERN STATES—				
Pennsylvania Grade	.....	.....	77,200	75,600
Southern Illinois (New Pools)	.....	.....	29,600	28,900
Illinois-Indiana (Old Pools)	.....	.....	13,350	12,450
Others, Eastern	.....	.....	24,650	23,800
Total Eastern States	145,400	.....	144,800	140,750
Total United States	3,333,300	.....	3,141,095	3,086,135

* Recommendation of Central Committee of California Oil Producers.

† Daily average, considering Saturday and Sunday shut-downs.

Statistical Reports

Bureau of Mines reports for April show production decline . . . Stocks decrease, but runs to stills boost refinery and natural gasoline plant storage

Bureau shows April production declined

Crude oil production in April failed to hold the gain made in March, when the daily average increased from 3,380,800 barrels in February to 3,436,300 barrels, and dropped back to 3,423,400 barrels, it was reported June 8 by the Bureau of Mines.

"This decrease, though small, was the forerunner of material declines in May," the bureau warned.

Total output for the month dropped to 102,702,000 barrels from 106,524,000 barrels in March, and was more than 2,000,000 barrels under the April, 1937, production of 104,979,000 barrels, the report showed. For the first four months of the year production aggregated 409,895,000 barrels, slightly more than 6,000,000 barrels above the 403,443,000 barrels produced in the same period last year.

The outstanding change in the state production figures in April, the bureau commented, was the decline in Oklahoma from 525,700 barrels daily in March to 504,600 barrels. However, all the leading producing states declined in production except Texas, which increased from 1,339,200 barrels a day to 1,350,500 barrels, most of the gain being registered in the coastal fields.

Curtailment efforts increased in California, it was said, but production in April was well above the 700,000-barrel mark. Kansas daily output continued at around the 170,000-barrel mark. Production in Arkansas, Illinois and Michigan continued to increase (their combined daily output in April was 154,100 barrels compared with only 83,900 barrels in April, 1937) but the eastern states were definitely off.

"A seasonal increase in daily average crude runs to stills of about 100,000 barrels, plus the small decline in production, reversed the trend in crude stocks, there being a decline of about 2,100,000 barrels in April compared with a 3,000,000-barrel increase in March," the report stated.

The April yield of gasoline was 43.6 percent compared with 42.6 percent in March. The indicated domestic demand for motor fuel was 43,254,000 barrels; this, the bureau commented, was slightly below the domestic demand of April, 1937, "but it is thought that had there been no increase in freight rates in March a gain of about one percent would have been shown."

Exports of motor fuel showed no indications of falling off, the April total of 4,474,000 barrels being 61 percent above April, 1937. Stocks of gasoline declined 2,261,000 barrels to 90,059,000 barrels. This decrease in stocks was considerably higher than the normal withdrawal, it was pointed out, indicating the general desire to liquidate excessive inventories.

"From the standpoint of the industry," the report commented, "the fuel-oil situation became steadily worse in April, demand running well under a year ago and stocks of all grades increasing about 5,000,000 barrels, compared with a decline of about 1,000,000 barrels a year ago."

Details of supply and demand in April, compared with previous months, are shown in the accompanying table.

Supply and Demand of All Oils

(Thousands of barrels)

	April, 1938	March, 1938	April, 1937	January-April 1938	January-April 1937
New Supply:					
Domestic production:					
Crude petroleum	102,702	106,524	104,979	409,895	403,443
Daily average	3,423	3,436	3,499	3,416	3,362
Natural gasoline	4,171	4,326	3,911	16,722	15,116
Benzol[1]	128	143	246	550	975
Total production	107,001	110,993	109,136	427,167	419,534
Daily average	3,567	3,580	3,638	3,560	3,496
Imports[2]:					
Crude petroleum:					
Receipts in bond	333	373	218	946	354
Receipts for domestic use	1,494	2,196	2,396	7,428	6,050
Refined products:					
Receipts in bond	1,907	[3]1,687	1,860	6,207	6,945
Receipts for domestic use	454	[3]638	1,050	2,280	3,451
Total new supply, all oils	111,189	115,887	114,660	444,028	436,334
Daily average	3,706	3,738	3,822	3,700	3,636
Increase in stocks, all oils	3,891	5,650	6,066	28,134	21,562
Demand:					
Total demand	107,298	110,237	108,594	415,894	414,772
Daily average	3,577	3,556	3,620	3,466	3,456
Exports[2]:					
Crude petroleum	7,553	6,121	4,899	24,955	15,468
Refined products	10,427	9,204	8,763	36,224	30,448
Domestic demand:					
Motor fuel	43,254	41,259	43,409	151,550	149,666
Kerosene	4,333	5,150	4,465	19,860	18,774
Gas oil and distillate fuels	7,800	10,487	8,171	42,580	44,399
Residual fuel oils	22,279	25,696	27,709	97,446	112,853
Lubricants	1,591	2,195	2,224	6,568	7,883
Wax	101	90	109	388	369
Coke	313	308	399	1,572	1,764
Asphalt	1,654	1,444	1,610	5,058	4,804
Road oil	208	131	230	658	831
Still gas	5,073	4,901	5,025	19,339	18,873
Miscellaneous	166	137	172	572	763
Losses	2,546	3,114	1,409	9,124	7,877
Total domestic demand	89,318	94,912	94,932	354,715	368,856
Daily average	2,977	3,062	3,164	2,956	3,074
Stocks:					
Crude petroleum:					
Refinable in United States	307,297	309,403	304,161	307,297	304,161
Heavy in California	16,887	16,069	[4]	16,887	[4]
Natural gasoline	6,179	5,531	5,292	6,179	5,292
Refined products	261,757	257,226	230,755	261,757	230,755
Total, all oils	592,120	588,229	540,208	592,120	540,208
Days' supply	166	165	149	171	156

[1] From Coal Division. [2] Imports of crude as reported to Bureau of Mines; all other imports and exports, from Bureau of Foreign and Domestic Commerce. [3] Revised. [4] Not available.

April runs to stills greater than in March

Runs of crude to stills in April totaled 95,675,000 barrels, the daily average of 3,189,000 barrels being 96,000 barrels above March and 70,000 barrels above April, 1937, according to the monthly report of the Bureau of Mines, issued June 9.

Receipts of oil at refineries totaled 96,666,000 barrels, of which 94,839,000 barrels was domestic and 1,827,000 barrels foreign, the daily average of the latter, 61,000 barrels, being 22,000 barrels under March.

Although the general trend in crude stocks was downward, the bureau pointed out, refinery stocks increased, totaling 54,351,000 barrels at the close of April compared with 53,460,000 barrels at the beginning of the month.

Less natural gasoline in April, but stocks rise

Production of natural gasoline in April totaled 175,182,000 gallons, compared with 181,692,000 gallons in March, it was reported June 9 by the Bureau of Mines.

The daily average production for the month was 5,839,000 gallons which, while 22,000 gallons under the March average was 364,000 gallons higher than that of April, 1937.

The principal decreases in April were registered in the Oklahoma City, Appalachian and the Kettleman Hills fields, the bureau stated, while the largest increases were in Kansas, Louisiana and the Long Beach field.

Stocks at refineries and plants and terminals increased materially during the month, refinery stocks advancing from 131,880,000 to 135,744,000 gallons and those at plants and terminals from 100,422,000 to 123,774,000 gallons, the report showed.

Carbon black sales advanced during 1937

The Bureau of Mines annual report on carbon black for 1937 stated that important developments in the industry included advances in production and total sales and a slump in prices the latter part of the year.

Production was 510,606,000 pounds, or 24 percent more than the previous peak of 1936. But in the latter part of the year sales declined, because of slowing up in the rubber trade, and stocks of producers increased. At the end of 1937, stocks on hand totaled 100,497,000 pounds of carbon black, compared with 79,582,000 pounds one year previously.

Spot prices, formerly steady since code days, weakened abruptly the latter part of the year, the representative price of 4.45 cents a pound dropping November 8 by 0.50 cent, while additional cuts followed, bringing the price at the year-end to 3.20 cents a pound. The average value at the plants as reported by the producers dropped from 3.92 cents in 1936 to 3.41 cents in 1937, but the average export value advanced from 4.69 cents in 1936 to 4.72 cents in 1937.

All States Produce More

Gains in production were registered by all the producing states. The Texas Panhandle again accounted for nearly 80 percent of the total production. Kansas entered the field for the first time with a plant in Grant County. There were 57 carbon-black plants operated in 1937, compared with 54 in 1936. A loss of three plants in Louisiana was more than offset by a gain of five plants in Texas and one in Kansas. Ward and Winkler counties, Texas, showed production for the first time, while Moore County (Panhandle) materially increased its output with four new plants.

There were 341,085,000,000 cubic feet of natural gas burned at carbon-black plants in 1937 compared with 283,421,000,000 cubic feet in 1936, or about 14 percent of the estimated gas consumption in the United States in 1937 compared with 13 percent in 1936.

The average yield of carbon black per thousand cubic feet of natural gas rose from 1.45 pounds in 1936 to 1.50 pounds in 1937, the largest gain ever recorded for any single year. This increase reflects a gain in the relative importance of "other" processes, one or two of which recover up to 10 pounds per thousand cubic feet burned.

Sales of carbon black by the producers rose from 467,736,000 pounds in 1936 to 489,615,000 pounds in 1937. Exports increased from 154,718,000 pounds in 1936, to 184,030,000 pounds in 1937, hence domestic sales decreased from 313,018,000 pounds in 1936 to 305,585,000 pounds in 1937. Domestic sales were divided as follows: To rubber companies, 269,807,000 pounds (88 percent); to ink companies, 18,116,000 pounds (6 percent); to paint companies, 6,159,000 pounds (2 percent); for miscellaneous purposes, 11,503,000 pounds (4 percent). These data indicate losses in the rubber and paint trades, gains for ink and miscellaneous uses.

The United Kingdom continued to be the principal foreign customer followed by France, Germany, and Canada in the order named. Although the continued rise in export was one of the few bright spots in the industry in 1937, a material part of this trade was based on military activities of uncertain duration.

Texas April production higher than March

The Texas Railroad Commission last week issued its monthly report of production in Texas, which showed that the daily average production for the month of April was 1,341,538 barrels daily, an average of 25,106 barrels daily higher than the average for the month of March. The total production was 40,246,154 barrels for April.

During the course of the month, 613 new wells were added in Texas fields, and it was this factor which accounted for the increase in allowances. Under the new system, which the Commission instituted on June 1, such increases will be far smaller because of the readjustment which takes place at mid-month.

The April allowable totaled 40,994,143 barrels, which was an average of 1,366,471 barrels daily. The daily average allowable per well was 17.036 barrels, an increase of 0.181 barrels over the average for March. In April, 1937, when 9456 fewer wells were producing, the per well average was 2.69 barrels higher.

48,031 Pumping Wells

The Commission reported 80,208 producing wells in April, including 32,177 flowing wells and 48,031 pumping wells.

Pipe line runs for the month totaled 39,866,974 barrels. There were 69,705 barrels shipped by tank car. Trucks moved 167,904 barrels, there were 34,385 barrels used for fuel, and 28,496 barrels disposed of for miscellaneous purposes. The attached table carries a complete recapitulation of these figures.

In the table below the comparative figures for April, 1937, and April, 1938, are shown:

	April, 1937	April, 1938
Number of Operators	4,786	5,348
Number of Leases	14,064	15,611
Number of Flowing Wells	28,648	32,177
Number of Pumping Wells	42,104	48,031
Total Producing Wells	70,752	80,208
Lease Storage (Beginning)	4,455,355	4,661,936
Total Allowable	42,252,429	40,994,143
Daily Average Allowable (30 Days)	1,408,414	1,366,471
Daily Average Allowable per Well	19.906	17.036
Indicated Production	42,211,622	40,246,154
Daily Average	1,373,720	1,341,538
Daily Average per Well	19.415	16.725
Runs to Pipe Line	41,060,940	39,866,974
Tank Car Movement	35,207	69,705
Truck Movement	110,884	167,904
Fuel	26,836	34,385
Miscellaneous	29,563	28,496

U. S. automotive taxes up 10 percent in 1937

Automotive taxes in 1937 hit a new high of $1,494,404,000, a gain of nearly 10 percent over 1936, when $1,361,345,000 was paid by the nation's motorists, according to the American Petroleum Industries Committee.

Mostly Gasoline

Gasoline taxes constituted the chief item on the bill, aggregating $957,955,000, or about two-thirds of the total. State gasoline taxes stood at $756,930,000, and the duplicating federal gasoline tax, enacted by Congress in 1932 as a "temporary" levy, cost motorists $203,025,959.

State motor vehicle registration and other fees in 1937 amounted to $415,829,000, a gain of nearly 11 percent over the previous year. Registration fees, however, were less than half of what the motor vehicle owners paid out in state and federal gasoline taxes.

Texas Monthly Production and Operation Report

District	OPERATORS Reported	OPERATORS Not Reported	LEASES Reported	LEASES Not Reported	WELLS Flow	WELLS Pump AGI	Total Allowable (Bbls.)	Reported Production (Bbls.)	Allow. Leases Not Reported (Bbls.)	Runs to Pipe Lines E B Reports (Bbls.)	OTHER DISPOSALS (Barrels) Tank Cars	Trucks	Fuel	Miscl.	Ending Storage (Bbls.)	Runs by Pipe Lines E D Reports (Bbls.)
1	295	13	743	14	66	3,679	879,787	825,488	3,558	790,749	.....	28,601	1,988	2,338	146,014	791,444
2	165	1	320	1	963	357	1,569,688	1,523,336	364	1,512,981	132	6,858	262	471	145,833	1,542,794
3	504	1	1,763	1	3,579	2,378	6,102,261	6,092,234	1,482	6,019,749	55,335	15,372	27,537	1,833	759,039	6,045,447
4	541	6	1,220	6	2,137	3,806	4,701,154	4,546,038	3,414	4,538,206	6,059	11,417	344	3,778	530,024	4,590,908
5	83	12	338	19	373	1,402	781,757	770,396	3,892	757,736	6,957	5,890	152	1,646	90,842	758,541
6	1,143	33	4,181	53	19,893	6,309	15,448,788	15,236,224	78,287	15,242,545	.....	5,815	544	4,876	1,058,730	15,338,267
7B	663	27	1,805	35	409	6,797	1,262,893	1,143,095	5,924	1,094,667	.....	50,845	68	2,570	266,327	1,085,378
7C	106	2	196	2	11	1,050	749,272	691,783	910	693,518	.....	167	.....	650	75,433	688,112
8	678	7	1,451	8	4,241	2,860	5,379,723	5,216,451	2,597	5,157,399	724	29,766	2,597	6,855	823,478	5,157,697
9	840	15	2,558	16	369	15,747	2,097,083	2,084,147	2,918	2,050,657	498	7,340	893	939	357,322	2,047,056
10	213	...	890	...	136	3,646	2,021,737	2,013,616	.....	2,008,767	.....	5,833	.....	2,540	384,383	2,007,799
Total	5,231	117	15,465	155	32,177	48,031	40,994,143	40,142,808	103,346	39,866,974	69,705	167,904	34,385	28,496	4,637,425	40,053,443
Allowable of leases not reported								103,346								
Indicated production								40,246,154								
Total allowable								40,994,143								
Net barrels under-produced								747,989								

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FIELD DEVELOPMENT HIGHLIGHTS

NORTH of Flora 1½ miles, a Clay County, Illinois, wildcat swabbed 700 barrels daily, opening a new field. Two offsets to the University of Chicago pool opener cored saturation, lifting the cloud that hung over the Olney area last week.

A good well on the south flank of Athens-Rosecrans, Los Angeles Basin, revived work in that California field. Ten operators have hopped into the play to get new production from a recently discovered horizon in the old Montebello field.

New Mexico

Vacuum pool was extended 1 2/3 miles southeast by one well and 2½ miles northeast by another. A wildcat 4¾ miles northwest of the field swabbing 15 barrels daily is considered to be on a separate structure. Two tests on the east flank of Eunice field developed flowing production.

Kansas-Oklahoma

Kansas production moved westward when a new pool was opened in Finney County by a Scott County well producing from Mississippi lime. Another Kansas wildcat promised to link Ainsworth and South Ainsworth pools, Barton County. Five important wildcats in the state were abandoned.

Jesse pool of Pontotoc County, Oklahoma, was extended a quarter of a mile southeast, and a wildcat between Grayson and Konawa pools, Seminole County, had a show of oil.

Comparison of Permits Granted For New Wells

STATE	Week Ending June 11	Total this Mo.	Total this Year	Total this Date Last Year	1937 Year Total
Arkansas	6	10	103	80	240
California	11	40	566	697	1,584
Louisiana	67	79	583	522	1,227
Kansas	29	44	718	1,198	2,663
Michigan	7	30	336	447	958
Oklahoma	32	55	940	1,385	2,711
Texas	355	487	6,449	8,193	17,238
Total	517	745	9,695	12,522	26,621

South Louisiana

West Dulac prospect in Terrebonne Parish may yield the world's deepest producer and a discovery well; preparations are being made to test sands between 13,205 and 13,280 feet. South Louisiana also accounted for a new sand on the southeast side of Jennings field and a possible new sand on the northwest side. Lafitte field was extended northwest.

Southwest Texas

Northwest of Barbacoas field, Starr County, a wildcat indicated a new Frio sand oil field at 2650 feet. A test on Chittim anticline which last week promised to give Dimmitt County its first oil field, fizzled on an attempt to shut off salt water, but another test is planned.

North Texas

An isolated test between K-M-A's most westerly producer and the Kadane sand area of Archer County flowed by heads when tested at 3820 and at 3867 feet. A deep test in the old shallow Freeman-Hampton shallow pool of the same county logged streaks of saturation at 3573 feet.

North Louisiana

Possibility of oil in the Lower Marine all around Cotton Valley is indicated by North Louisiana's first oil production below 8000 feet. Other wells that deep have had gas and distillate, but this strike is a good grade of oil. Meanwhile, at Shongaloo, shallow gas area, a deeper try has uncovered gas and distillate at 8990 to 9010 feet, after drilling to 10,462 feet.

Michigan

What Michigan lacks this week in important developments it makes up on the human-interest side: Cajuns who think they have all the mosquitoes will be interested to know that in the Michigan swamps these pests delayed work on a well for 18 hours. Then a chemical company is starting a 4500-foot hole and will be pleased to get either salt water or oil.

East Texas

A half-mile extension of Flag Lake pool, northwestern Henderson County, East Texas, indicates that the production trend to the southwest and parallel to the fault plane responsible for Woodbine oil in that pool may extend to the Trinity river.

Summary of Wells Completed in the United States Week Ending June 11, 1938

	Completions	Oil Wells	Gas Wells	Failures	Initial Production	Total, 1938	Total this Date, 1937
Alabama	....	....	....	....	.....	2	1
Arkansas	3	2	1	....	636	110	37
California	23	19	....	4	21,799	550	591
Colorado	....	....	....	....	.....	4	6
Florida	....	....	....	....	.....	....	.....
Georgia	....	....	....	....	.....	1	.....
Illinois	16	14	....	2	2,766	432	42
Indiana	6	2	2	2	20	52	56
Kansas	36	25	2	9	26,102	830	1,087
Kentucky	7	4	1	2	95	311	103
Louisiana	30	21	3	6	10,982	472	358
Michigan	11	8	....	3	1,645	356	376
Mississippi	1	....	1	....	.....	10	6
Montana	....	....	....	....	.....	25	64
Nebraska	....	....	....	....	.....	1	.....
New Mexico	9	9	....	....	3,350	233	317
New York	....	....	....	....	.....	19	5
Ohio	21	7	7	7	57	404	629
Oklahoma	39	23	5	11	2,698	978	1,401
Pennsylvania	2	1	1	....	5	80	76
Tennessee	....	....	....	....	.....	2	.....
Texas	260	205	5	50	368,863	6,016	6,605
Utah	....	....	....	....	.....	....	.....
West Virginia	9	2	6	1	15	328	396
Wyoming	....	....	....	....	.....	41	52
Total this week	473	342	34	97	439,033	11,257	12,208
Total last week	513	361	26	126	380,151	....	.....
Total this year	11,257	7,788	900	2,569	9,207,031	....	.....

California Fields

Ten operators busy developing new Montebello zone.

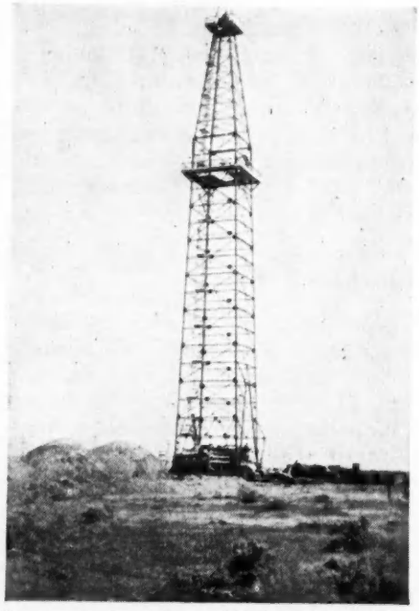
Superior's success at Athens-Rosecrans revives work.

Los Angeles.—With limits of the west extension of the Montebello field yet to be defined, and present new production checking closely with that of the upper and lower Nutt zone in the east portion of the field, 10 operators have recently entered the play to develop the same productive horizon discovered a short time ago by St. Helens Petroleum Company. The new deep Miocene zone has created a lot of attention, so much so that semi-major companies are anxious to supply plenty of front money to the smaller independent factions and apparently are willing to furnish equipment and other needed supplies. Four new locations were staked during the past week: one by Gilmore Oil Company, on the Montebello Land and Water lease; another by Standard Oil Company on its McDonald piece, while Union Oil Company will drill Howard & Smith 2 and St. Helens Petroleum Company will start Monterey 28. Within a few days completion is slated for Brookline Oil Company's Drake Community 1 as it is coring below 5700 feet with the expectation of taking in the Fifth zone, and may be deepened to include the Sixth horizon.

The south flank of the Athens-Rosecrans field in the Los Angeles Basin, is back in the limelight again. Superior Oil Company's Maxwell 8, developed a flow of 300 barrels daily and has encouraged the staking of additional locations. Union Oil Company has rig up for Rosecrans 23 near Rosecrans and Broadway. The J. M. Ackerman well at Figueroa and Laconia blew out last week after shooting casing at 2500 feet and produced mud, water and gas out of control a few hours before controlled.

The old Torrance field is getting a share of the new activity in the Los Angeles Basin, where MacDonald & Burns' Moore 5 in the southwest corner of the field west of Pennsylvania on 231st street produced 300 barrels daily of 27 gravity oil at 4924 feet. The operator's Moore 8 nearby at 5057 feet started flowing around 340 barrels daily with a small cut, while W. E. McCaslin's Whitney 1 in the same area with bottom at 5042 feet was brought in for an initial yield of 300 barrels of 26.8 gravity oil per day. These completions establish the southwest corner of the new boom area as the best producing part of the Torrance field.

When and if Superior Oil Company announces a drilling program for the new Wasco field, the Pacific Western and George F. Getty interests, and possibly Continental Oil Company will be forced to offset. Continental Oil Company last week got its second well, KCL A-3, under way by spudding in, with the expectation of going only to 13,175 feet to take in the same horizon found in the discovery well. This second project is situated 1850 feet north of the discovery well, an interesting angle of this being that only three 350-pound boilers with a combined horsepower of 400 will be used in drilling this deep hole, although five, of a smaller type, were used previously. The boilers were planted 1850 feet from the well, with



New type derrick on Mushrush 1, offset to the discovery well at Wasco. It is expected to allow the stacking of more casing.

two steam lines, both insulated, going to and from the rig. Engineers who figured it out, at the suggestion of H. A. Bell, official, says that 90 percent of the power will be utilized. It also was proposed that by locating the boilers at a great distance from KCL A-3, it will not become necessary to move them again to drill additional wells. The same set of three boilers will be used, to drill four or five other wells, in a fan-shaped lay out, thus again making possible a substantial saving in costs.

The height of Continental Oil Company's derrick for KCL A-3 is 178 feet, as against the 136-foot height for the discovery well. The increased height will permit the company to use 120-foot stands instead of the 90-foot stands on the discovery well, thus cutting down the number of rounds going into and out of the hole. This will represent a difference of approximately 25 percent in the time of drilling and completing a well at Wasco, barring mechanical difficulties.

Standard Oil Company also enters Wasco field with a brand new type of derrick for its Mushrush 1, the first of this type ever seen or used on the Pacific Coast. Rising 178 feet from a 32-foot base, instead of the customary 24-foot size, it does not taper for at least 100 feet. It will enable the stacking of many more rounds of casing, and is being tried out as an experiment.

Reports are current that Superior Oil Company will assemble a rig that will rise 250 feet into the air when it gets busy at Wasco, which will again present a problem in drilling mathematics. Should this new phase come to pass, it wil! mean that the company will be able to use stands of 180 feet in length and cut the drilling time down approximately half. As it is, this company, due to its perfection of drilling equipment at Rio Bravo, is getting down fast.

Continental Oil Company has resumed drilling in the KCL C-1, wildcat, Section 26-27-24, west of Wasco field. This project, originally drilled to 10,244 feet by Seaboard Oil Company and suspended due to mechanical problems, is now down to approximately 10,900 feet and is slated for a bottom exceeding 11,800 feet, which would be equivalent to the Rio Bravo field, 10 miles to the southeast. Seaboard Oil Company had trouble with a water and gas zone, but Continental Oil Company successfully cleaned up the job and by thinning out the mud got through the troublesome zone without mishap and expects to discover a new field.

At Rio Bravo, Superior Oil Company completed its fifth well, Wagner 3 for an initial yield of 5200 barrels daily along with 6,700,000 cubic feet of gas at 11,542 feet. In this field the company is using the latest type of equipment and is finishing wells far in advance of offset projects. One of its wells is reported to have made 9600 feet in 27 days.

Two at Santa Maria

Union Oil Company early last week brought in two excellent wells in the Santa Maria Valley oil field. Mallory 1, located in Section 27-10-34, near the lower Orcutt Road in the southwest section of the field, and a half mile northwest of McCoy-Cooney 1, came in for an initial yield of 2300 barrels of 15.1 gravity oil per day, along with 860,000 cubic feet of gas, from a depth

CALIFORNIA Completions

Company, Well and Location	Int. Prod. Bbls.	Depth
Athens-Rosecrans—		
Barnsdall Oil, Trust 3	1260	7789
Superior, Maxwell 8	350	7683
Coyote, West—		
Standard, Bastanchury 2	180	5983
El Segundo—		
Ohio, A. S. Gough 12	400	7411
Montebello—		
St. Helens Pet., Monterey 26	1600	5774
Torrance—		
Consolidated Pet., Kenny 1	173	5000
W. E. McCaslin, Hutchins 1	300	5042
Wilmington—		
General Pet., Harbor Comm. (LB) 4	422	2905
General Pet., S. P. (LB) 3	601	4125
Hancock, Harbor (LB) A-4	4000	4050
Richfield, Pacific Dock (LB) 11	576	3845
Union Pacific Ry., UP (LB) E-6	601	3910
Universal Consolidated, Newport (LB) 5	500	4150
Canal—		
Ohio, KCL E-6	2481	8262
Kern River—		
L. G. Helm & Lon V. Smith, No. 3-A	20	653
Rio Bravo—		
Superior, Wagner 3	4840	11,582
Round Mountain—		
Shamrock Pet., Shamrock 7	375	1590
Eastmont Oil, Olcese 7	•	701
Ten Section—		
Shell, KCL B-47	2964	8220
Ventura Avenue—		
Tide Water, Lloyd 76	156	4955
Grapevine-Wheeler Ridge—		
Ohio, Tejon D-3	•	2275
Mt. Poso-East—		
W. P. W. Petroleum, Packard 4	•	1263
Temblor Hills—		
Par-Mer Oil, Kendon 1	•	900

*Failures; †Junked; ¶Million cu. ft. gas.

of 5021 feet. McCoy-Cooney 1 is good for 960 barrels of 14.1 gravity oil per day with bottom at 5285 feet. This project bottomed in the Franciscan basement formation. The company is drilling three other wells in this field.

Gatchell 2, northeast of the Coalinga field, will be subjected to a production test by the Petroleum Securities Company soon, it is expected. Universal Consolidated Oil Company has secured an 80-acre parcel a half mile west of Gatchell 2 and is completing derrick for Leavitt-Hintze 1. The Clara Niedever 80, a half mile south of Gatchell 2 also is controlled by Universal Consolidated. Enlivening the interest near Coalinga, is the Magnet Oil Company, which has started a deep test on the Fearon lease. Magnet also asquired a new lease covering a portion of Section 4-20-14, where 13 old producers are on the pump.

Standard in at Rosecrans

Standard Oil Company has entered the new play in the Rosecrans field with the acquisition of the 40-acre Joe Amestoy parcel between Vermont and Figueroa streets near 135th street. Standard is reported to be taking other small parcels adjacent to the Amestoy and may start a new well to explore for the deep productive zone. Universal Consolidated has landed tubing in Trust 3 at Rosecrans, with bottom at 7712 feet and completion is slated before the current week-end. Foundation has been completed for Trust 4, and on the adjoining lease Barnsdall is rigging up a new test to offset Universal's Trust 4.

On Tejon Ranch, at the foot of Grapevine, Kern County, Universal Consolidated has turned back to Wilshire and the Barnhart-Morrow interests its 100-acre lease where Universal drilled a well for the joint account of the latter two companies. Tejon 1, situated in Section 35, developed a yield of 70 barrels daily. Petrol Corporation is drilling east of the Wilshire-Barnhart-Morrow lease, while Wilshire may be obliged to start the drill soon to fulfill lease requirements.

Flood waters halt work in Tulare Lake Basin

Los Angeles.—A great inland lake, formed by flood waters from the Kings River, in the vast San Joaquin Valley, is going to delay oil exploration in the Tulare Lake Basin for years, according to competent geologists and engineers who have been viewing the area involved.

Approximately 70,000 acres are under water. Of this vast area, 6000 are held by Seaboard Oil Corporation where the company intended resuming drilling operations late this year.

Flood waters pouring from the Kern River down past Bakersfield are rapidly filling Buena Vista Lake, near where the Ohio Oil Company is drilling. Numerous leases held by major oil companies may be tied up for many months.

Jackson, Miss.—Wilmut Oil & Gas Company, which last week completed the second of two gas wells in the northeast edge of the Jackson gas field on fee land, the latter being Fee 7, in NW NW 6-5n-2e, Rankin County, estimated at 50 million cubic feet of gas daily, from 2352 feet, has derrick up for another test in SW SW 31-6n-2e.

New Mexico Fields

Southeast and northeast extensions for Vacuum pool.

Vacuum outpost considered on separate structure.

Hobbs, New Mexico.—Two major extensions for the Vacuum field were in prospect late last week after logging oil saturation at favorable structural levels. The Texas Company's State 1-P, C NW SE 7-18s-35e, 1-2/3 miles southeast of production, was showing oil and gas while unloading hole through tubing to test at 4750 feet, or 777 feet sub-sea. First saturation was logged at 4650 feet. Due to tight lime condition it may require nitro shot and acid to attain flowing production. Phillips Petroleum Company's Santa Fe-State 6, C SW SE 21-17s-35e, situated 2½ miles northeast of production, has cemented pipe at 4268 feet, with the hole bottomed at 4583 feet, or 621 feet sub-sea. Bleeding cores were recovered at intervals below 4350 feet.

Vacuum field was credited with 4 of the 9 new tests authorized for Lea County the past week, and also added four oil producers. Three inside locations were allotted the Vacuum area by Magnolia Petroleum Company. This company's State-Bridges 9, C SE SW 13-17s-34e, is midway between the two most northeasterly producers, which includes the first well to drill to the water level. Surface pipe has been cemented Cellars have been dug for State-Bridges 10, C SE NW 23-17s-34e, and State-Bridges 11, C SE NW 25-17s-34e. Republic Production Company has made location for State 2, C SW SW 32-17s-35e.

Amerada Petroleum Corporation's State 2-V-A, C NW SW 23-17s-34e, offsetting the most westerly producer, flowed 146 barrels of oil in 16 hours through 25/64-inch choke natural from lime at 4671 feet, or 643 feet sub-sea. Gas/oil ratio was 360 feet per barrel. Magnolia Petroleum Company's State-Bridges 7 flowed 70 barrels oil in two hours, and later 31½ barrels in two hours through 25/64-inch choke at 4700 feet. This company's State-Bridges 8 flowed 74.2 barrels oil in two hours at 4740 feet, or 705 feet below sea level. The Texas Company's State 1-N, C SW NW 36-17s-34e, offsetting prolific wells, is the first completion that has failed to make its proration allowable. It was drilled to water at 4850 feet, or 853 feet sub-sea, and after plugging back to 4700 feet produced 24 barrels fluid, 80 percent bs&w, in 12 hours on gas lift. Lime pay was not shot or acidized.

Separate Geological Feature

Repollo Oil Company's State 1-197, 4-1/3 miles northwest of Vacuum field production, is nearing the water level established by two wells in the latter area in drilling dry lime at 4981 feet, with an elevation of 4118 feet. This wildcat swabs 15 to 20 barrels oil daily from upper pay topped at 4644 feet, and is conceded to be on a separate geological feature. The Texas Company's Corbin 1, western Lea County wildcat and 8½ miles west by south of the Vacuum field, has plugged back by stages to 4322 feet where a production test is in progress. The test was carried to water at 5115-18 feet.

Continental Oil Company and Herschbach Drilling Company's State 1-K-29, wildcat situated six miles southeast of Lovington, has spudded to comply with lease requirements. It will be carried beyond the 5000-foot level. Location is 1½ miles southeast of Oil Well Drilling Company's L. L. Clardy 1, which was abandoned at 5065 feet without encountering water in the big lime.

Continental Oil Company et al's Britt 1-B-15, C W½ NW NW 15-20s-37e, east edge well for Monument field, responded to multiple-stage treatment with 15,000 gallons of acid with an initial output of 214 barrels oil and 26 barrels of water on gas lift. Hole water carried to 3919 feet, or 357 feet sub-sea.

Flowing oil production has been developed by Continental Oil Company from two tests on the east flank of the Eunice field and near the west border of the sandy-lime belt. This company's State 2-F-1, Lot 1, 1-21s-36e, gauged 45 barrels of oil in 18 hours through ¾-inch choke, with gas volume rated at 1,860,000 feet daily, at 3807 feet, or 306 feet sub-sea. State 1-J-2, C NW NE 2-22s-36e, flowed 16 barrels hourly for three hours through ¾-inch choke at 3800 feet, or 233 feet below sea level. Gas volume was reduced to 310,000 feet daily by installing tubing packer.

The sandy-lime belt was credited with three new projects. Magnolia Petroleum Company's Brunson-Argo 2, C NE NE 9-22s-37e, has cemented surface pipe. In the Hardy field, Stanolind Oil & Gas Company has made location for Hill 3-A, near SW SW NE 6-21s-37e. Phillips Petroleum Company and The Pure Oil Company's Woolworth 2, C NE SE 33-24s-37e, offsets production in the Langlie field. Skelly Oil Company's J. L. Coates 7, C NW SW 3-24s-36e, Cooper lime field, has rigged up.

NEW MEXICO

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Lea County (Eunice)—		
Continental et al, Reed 5-B-23, c e½ ne se 23-20s-36e	240	3871
Lea County (Hardy)—		
Stanolind, Hill 2-A, lot 9, 6-21s-37e	250	3785
Lea County (Langlie) —		
Culbertson & Irwin, Humphrey 6-A, ne sw se 3-25s-37e	480	3445
Lea County (Monument)—		
Continental et al, Sanderson 2-B-14, c ne ne sw 14-20s-36e	750	3868
Lea County (Penrose)—		
Magnolia, Brunson-Argo 1, c nw ne 9-22s-37e	324	3738
Street et al, Wood 4, c ne ne 22-22s-37e	126	3686
Lea County (Vacuum)—		
Amerada, State 2-V-A, c nw sw 23-17s-34e	450	4671
Magnolia, State-Bridges 7, c sw ne 23-17s-34e	720	4700
Texas Co., State 1-N, c sw nw 36-17s-34e	10	4850

•Failures; †Junked; ¶Million cu. ft. gas.

Kansas Field Developments

Finney County oil well moves production farther west. Ainsworth pools in Barton County apparently connected.

Wichita, Kansas. — Oil production was moved farther west in Kansas last week with opening of a new pool in Finney County by a successful swabbing test by Atlantic Refining Company in Nunn 1, SEc NE 27-21-34w. The well produced 167 barrels in 5 hours, total depth 4658 feet in a formation considered Mississippi lime. The wildcat is six miles west and 10 miles south of the Shallowater pool, Scott County, previous boundary of western production in Kansas.

Other Kansas drilling resulted in a completion that promises to link the Ainsworth and South Ainsworth pools, Barton County, a half mile extension for the Zenith pool, Stafford County, an extension for the Edwards pool, Ellsworth County, another extension for the Chase pool, Rice County, and the starting of tests to determine the extent of Arbuckle lime production in the Harbiger pool, Rice County.

The Finney County wildcat has been showing slight saturation from cores for several days. Last week it was given an acid treatment of 6000 gallons and responded by filling 2400 feet with oil. In 5 hours of swabbing the well produced 167 barrels of oil and the fluid was lowered to 300 feet. Small gas heads accompanied each return of the swab. No water was found. The oil tests 28.9 gravity corrected.

When the formation was first found saturated it was accepted as Mississippi lime. Later sand streaks were found and confused identity of the formation. The oil is similar to that produced at Shallowater, a Mississippi lime field with six producing wells, owned by Atlantic Refining Company.

Five Wildcats Abandoned

Five wildcats were among the Kansas completion list for the week. In northwestern Pawnee County Champlin Refining Company quit drilling in Reeves 1, SWc 29-20-18w, at 3656 feet. Southeast of the Sittner pool, Stafford County, Torry and Feaster abandoned Wittrock 1, NWc SW 34-21-12w, at 3703 feet.

Simpson & Noble abandoned Thome 1, NEc NW 17-26-4w, at 4173 feet, southwest of the Hilger field, Reno County.

Another Reno County failure was registered when Jim Carey and associates abandoned McPheeters 1, NEc NW 22-26-8w, west of the Lerado field.

The joint test of Atlantic Refining Company, Skelly Oil Company and Sinclair Prairie Oil Company, Berg 1, NE NW NW 22-26-14w, in the northwest corner of Pratt County, was abandoned at 4562 feet.

Ainsworth-South Ainsworth Link

Possibility of the linking of the Ainsworth and South Ainsworth pools, Barton County, was recorded when the test of Western Kansas Oil & Refining Company and Republic Natural Gas Company, Linsner 1, SWc SE 3-17-13w, filled 2400 feet with oil in 12 hours from total depth 3367 feet in the Arbuckle lime, top 3362 feet. A core between 3364 and 3367 feet showed fair saturation. Casing was set at 3362½ feet. The well is a mile south of the Ainsworth pool proper and northwest of the South Ainsworth pool.

The half-mile extension for Zenith pool, Stafford County, was assured last week with potential of 1304 barrels for Stanolind Oil & Gas Company, Simms 1 SWc NE 11-24-11w. Since this well is a half mile north of another half mile extension, northward, it gives this Misener sand pool acreage for substantial development.

To Try Acid Again

A second treatment with acid will be given Soeken 1, C SE NW 5-20-11w, Barton County, drilling by Stanolind Oil & Gas Company between the West Ellinwood and the North Ellinwood pools. At 3332 feet, Arbuckle lime, the hole filled 600 feet with oil. After first acid application the hole swabbed 36 barrels of oil in three hours.

An extension, a half mile north of Edwards pool, Ellsworth County, was recorded last week by Continental Oil Company in Steinberg 2, C NW 27-17-8w. A potential of 2475 barrels was made from Arbuckle lime at 3247 feet.

Chase pool, Rice County, was extended a half mile east by H. C. Weaver's Handy 1, NEc SE 30-19-9w, with potential of 228 barrels from Arbuckle lime at 3280 feet.

Rapid testing of the Arbuckle lime zone of the Harbiger area, Rice County, was assured following completion of the Vickers Petroleum Company's Roesler 1, NWc SW 5-18-10w, for potential of 2279 barrels, total depth 3002½ feet. Mid-Continent Petroleum Corporation deepened Schlicht 1, NEc SE 6-18-10w, a small producer in the Kansas City lime, to 3315 feet and cemented casing for a test. Skelly Oil Company started drilling Volkland B-4, SWc NW 5-18-10w, and had surface casing set at 238 feet.

This development is a mile east of Stumps pool and southeast of Bloomer pool, both producers from Arbuckle lime as well as the Kansas City-Lansing lime section.

Further drilling in the Rooks County wildcat of Carter Oil Company Whitford 1, NEc SE 12-7-17n, will be done with cable tools, now at total depth of 3355 feet and waiting on tools. This test has had good structure in its favor but cores at frequent intervals have failed to find favorable saturation. The well is northwest of several small pools in this county, the outpost production to the northwest in the western Kansas development.

In Ford County, Sinclair Prairie Oil Company's Young 1, S½ NE 34-27-21w, is coring and drilling slowly below 5600 feet. Recent cores have revealed water with sulphur odor. The last core was taken at 5675 feet and recovered six feet of sand without favorable showing.

Farther west in Finney County, Atlantic Refining Company is cleaning out after a shot at 4664 feet in Nunn 1, C SE NE 27-21-34w. This well had a showing in the Mississippi lime but saturation was not sufficient for commercial production.

KANSAS
Completions

Week Ending June 4, 1938

Company, Well and Location	Init. Prod. Bbls.	Depth
Barton County—		
Helmerich & Payne, Stettinger 5, se nw ne 1-16s-14w	2090	3323
Bennett et al, Steckel 3, se se sw 1-20s-11w	1185	3284
Stanolind, John Dick 4, se se nw 3-20s-11w (pb 3315)	324	3330
Magnolia, H. J. Roetzel 16, sw se se 24-20s-11w	504	3264
The Texas Co., H. Disque 4, ne ne sw 3-17s-11w	1560	3374
Butler County—		
Goering Bros., Furman, se se sw 8-23s-4e	25	2092
Richmond Drlg., Bausinger 2, c e½ e½ sw¼ 24-27s-3e	10	3056
Nat'l Refg., Sutter "D" 1, se ne sw 1-28s-6e	211	3186
Cowley County—		
Deep Rock, Craston 3, nw sw ne 30-32s-6e	*	3410
Ellis County—		
Margay, Johansen 6, nw se se 22-11s-17w	2911	3387
Cities Service, Hall "B" 10, c w½ e½ sw¼ 26-11s-17w	2310	3549
Republic Nat. Gas, Joy 1, nw ne nw 14-12s-18w	936	3697
Ellsworth County—		
Cities Service, Schroeder "A" 2, c n½ n½ sw¼ 29-17s-9w	1166	3230
Cities Service, Schorder "B" 1, sw ne ne ne 30-17s-9w	*	3242
Greenwood County—		
A. Lykes, Fee 2, se ne se ne sw 5-24n-12e	25	1795
Kearney County—		
Tri-County Gas, Campbell 3, ne se ne 19-25s-35w	¶9	2679
McPherson County—		
E. B. Shawver, Klassen "B" 3, sw se nw 21-19s-1w	25	3427
H. & M. Drlg. Co., H. Ek 1, sw sw ne 24-19s-3w	*	3031
Continental, O. C. Chavey 3, sw sw ne 20-21s-1w	327	3337
Hetzke 12, se se ne 29-21s-1w	464	3335
Darrah-Aurrell-Williams, Decker Est. 1, sw sw se 12-21s-2w (pb 2980)	¶5	3561
Ness County—		
Continental, Shiner 1, c w½ w½ sw 18-18s-25w (pb 4423)	*	4483
Pawnee County—		
Kessler & B. American, Belt 1, se se nw 13-20s-16w	719	3813
Reno County—		
Transwestern, Teten 6, ne nw se 12-23s-4w	763	3433
Rooks County—		
Gulf, Mollie 8, sw se se 25-15s-14w	1864	3302
Russell County—		
Continental, H. Rein "A" 2, ne ne sw 27-14s-13w	2363	2892
Cities Service, Carter 1, se se ne 29-14s-13w	1321	2927
Beeker 1, nw ne nw sw sw 21-14s-14w	*	3283
Simon Lebow, Furthmeyer 1, se se se 22-14s-15w	*	3289
Stafford County—		
Stanolind, Siefkes 2, ne se ne 3-22s-12w	370	3601
Pure Oil, Krey 3, nw sw se 14-24s-11w	3599	3836
Sinclair Prairie, Krey 1, sw sw ne 14-24s-11w	2083	3819
Stanolind, B. McComb 2, ne ne sw 14-24s-11w	1716	3827
Stanolind, M. Volker "B" 3, se se sw 14-24s-11w	1544	3826
Stanolind et al, W. G. Ferris 4, ne ne nw 23-24s-11w	1335	3819
W. C. Volker 2, nw nw ne 23-24s-11w	2243	3830
Derby, G. McComb 5, sw nw nw 24-24s-11w	3560	3813
Stevens County—		
Kuhn Bros., States 1, c sw¼ 20-32s-38w	¶9.5	2698
Woodson County—		
Kilb et al, Skellenger 1, ne ne se 25-23s-14e	*	1650
Saco, Klick 8, sw sw sw 20-25s-14e (pb 1425)	30	1428
McGinnis, State Bank 1, c e½ nw ne ne 14-26s-15e	*	1465

*Failures; †Junked; ¶Million cu. ft. gas.

Oklahoma Fields

Jesse extension well flows 472 barrels oil in 5 hours.

Cleveland County wildcat producing from Second Wilcox.

Tulsa.—An extension a quarter of a mile southeast for Jesse pool, Pontotoc County, and a showing in a wildcat well between the Grayson and Konawa pools, Seminole County, developed in the three wildcats which for two weeks have promised to open as many new pools in Oklahoma.

The extension at Jesse was a flowing well of Stanolind Oil & Gas Company and Amerada Petroleum Corporation Greenan 1, NE SE SE 12-1n-7e, in the McLish formation; top, 4560 feet; total depth, 4603 feet. In a test of 5 hours it flowed 472 barrels through 1-inch choke on 2½-inch tubing. Later it flowed 257 barrels in 3 hours.

The Jesse pool near the Fitts field has considerable Hunton lime production in its 31 wells. The McLish sand extension gives indication of a trend to the southeast.

Showing in the Seminole County wildcat was made by Denver Producing & Refining Company's Mathis 1, SW NW SW 7-6n-6e, where oil rose 900 feet in the hole bottomed at 3842 feet in Simpson dolomite, top 3835 feet. The test has slight gas pressure and no water.

Carter County Failure

Efforts to make a producer of Harley 1, deep test of Carter Oil Company, C NW NW 19-2s-3w, Carter County, have failed. Treatment with 5000 gallons of acid, total depth 8280 feet, resulted in the formation taking all the acid. Next an oil load of 500 barrels was introduced and this was taken by the formation. This test is an east offset to the first Milroy oolitic lime deep producer, Harley Community 1, C NE NE 24-2s-3w, Stevens County, which was completed August 25, 1937, as a producer from the oolitic lime, 7555 to 7600 feet. This well was drilled to 8157 feet. When plugged back to the lime, within the Simpson formation, it made only 20 barrels daily with 5,000,000 cubic feet of gas. After acid treatment the well made 1760 barrels of oil in 16 hours with 16,000,000 cubic feet of gas. For a period the well had a special allowable of 500 barrels daily, but this has been reduced to 360 barrels daily. Initial bottom hole pressure was 4498 pounds at 7500 feet. This has declined to 2495 pounds.

Carter Oil Company, Skelly Oil Company, Magnolia Petroleum Company and Mudge Oil Company are owners of the community block around the well in Stevens County.

Success of the first Milroy deep test, plus the deep producer, Ruth Williams 1, in the old Fox field, Carter County, led to the starting of 6 wells between the two producers. Three of these are now below 6000 feet.

Of the three Oklahoma wildcats showing for possible new pools, most interest clings to the test of W. A. Delaney and associates, Burgher 1, SEc SW 12-7n-2w, Cleveland County, which has had three days of production to record 1930 barrels of oil and 1524 barrels of water. Oil is 39 gravity. Production is from the second Wilcox sand, top 7670, total depth 7682 feet. Casing is at 7445 feet, leaving 237 feet of open hole. Flowing tests have been through 2½-inch tubing, set at 7610 feet. Nature of the water and temperature of the oil indicate that the water is from above the oil sand.

One new location has been staked by Fain Drilling Company in C W½ NW SW 6-7n-1w, northeast of the producing well. Drilling, however, is not to be started until the Corporation Commission has issued a spacing order for the area. Lease and royalty trading leave little doubt that the industry considers the test as certain to open substantial production.

Further deepening with cable tools has thus far failed to increase the output of the Logan County wildcat strike of Sinclair Prairie Oil Company, Crews 1, SWc NE 27-16n-1e. Since last week the hole has been drilled to 5233 feet, 18 feet deeper than the point in the first Wilcox sand where it started making heads through 7-inch casing after being bailed down. While deepening the well flowed 233 barrels in five heads through casing. The five heads were made in 24 hours.

Flood stage of the Cimarron River has prevented completion of a pipe line to the Payne County wildcat of The Texas Company, Longan 1, C W½ NW NW 12-17n-1e. This hole was drilled to 5006 feet in the Second Wilcox sand but plugged back to 4974 feet with 7-inch casing set at 4807 feet. The first Wilcox sand was topped at 4874½ feet and drilled through 4891 feet. Tubing was run to 4944 feet and the first flow through tubing was 275 barrels in 6½ hours. The oil tests 46.4 gravity, temperature 47° F. Since the flow was made while running tubing and mud later was found at 4908 feet, the well is considered a positive pool opener. Further testing will come with completion of pipe line outlet.

Efforts to make a producer of Harley 1, deep test of Carter Oil Company, C NW NW 19-2s-3w, Carter County, have failed. Treatment with 5000 gallons of acid, total depth 8280 feet, resulted in the formation taking all the acid. Next an oil load of 500 barrels was introduced and this was taken by the formation. This test is an east offset to the first Milroy oolitic lime deep producer, Harley Community 1, C NE NE 24-2s-3w, Stevens County, which was completed August 25, 1937, as a producer from the oolitic lime, 7555 to 7600 feet. This well was drilled to 8157 feet. When plugged back to the lime, within the Simpson formation, it made only 20 barrels daily with 5,000,000 cubic feet of gas. After acid treatment the well made 1760 barrels of oil in 16 hours with 16,000,000 cubic feet of gas. For a period it had a special allowable of 500 barrels daily, but has been reduced to 360 barrels. Initial bottom hole pressure was 4498 pounds at 7500 feet. This has declined to 2495 pounds.

The Love County wildcat of Sinclair Prairie Oil Company, Felts 1, 35-6s-5w, is still washing over and recovering drill pipe. This test is a mile east of

OKLAHOMA
Completions
Week Ending June 4, 1938

Company, Well and Location	Init. Prod. Bbls.	Depth
Creek County—		
Gled Oil Co., Escoe 5, ne sw sw sw se se 27-18n-8e (otd 1330)	575	2646
Grady County—		
T. H. McCasland, Hawkins 1, sw sw sw 5-3n-5w	138	2816
Jefferson County—		
Rips, Ungerman et al, Black 6, ne sw se sw ne 16-7s-5w	*	835
Kiowa County—		
W. D. Waggner, Pfenning 1, se sw se se se 35-7n-17w (pb 530)	3	620
Lincoln County—		
Wilcox O&G Co., Fitch 2, nw nw ne 15-14n-6e	52	3015
Sac & Fox 12, se nw se sw nw 15-14n-6e	350	3022
Okfuskee County—		
Helmerich & Payne, Mingo 3, sw ne sw 25-10n-10e	*	1200
Okmulgee County—		
Okla. Oil Co., Bird 1-A, ne sw sw se nw 5-12n-12e	*	2405
Vierson, Doyle 6, cw½ w½ sw nw 6-14n-13e	65	2098
Selby, Grayson 5-A, ne se se nw ne 3-14n-14e	2	790
C. E. Beal et al, Sarivarhie 1, sw sw nw 27-15n-11e (pb 2100)	12	2901
Osage County—		
Curtis Oil Co., 2, nw se se ne sw 26-23n-9e	*	2615
I.T.I.O., Jim Higgings 1, sw sw nw 7-24n-7e	*	2830
Pawnee County—		
Johnson Oil Ref., Irene Boyl 1, ne sw ne 27-20n-9e	20	2149
Payne County—		
The Texas Co., J. O. Logan 1, c w½ nw nw 12-17n-1e (pb 4786)	*	4845
Pontotoc County—		
Continental, Brown 1, ne ne nw 11-1n-7e (pb 4132)	7	4722
Sinclair Prairie, Vivian 4, ne sw nw 22-2n-7e (otd 3805)	10	3830
Lake, Neal 1, ne ne sw 25-5n-4e (pb 2475)	25	2560
Clark & Cowden, Starrett 1-A, sw ne ne 21-5n-5e	5	1726
Pottawatomie County—		
Denver P&R, Zoeller 1, c e½ nw se 5-6n-5e (pb 4149)	150	4178
N. Berrett, Clark 1-A, se sw ne 10-7n-4e (pb 3600)	5	4375
Magnolia, Caudle 5, ne nw sw 13-7n-4e (pb 4213)	20	4219
Lynn 3, sw ne se ne ne 21-7n-4e	¶11	3217
Billington 7, sw nw ne 22-7n-4e (pb 3468)	*	4255
Denver P&R, Martin 1-A, sw se nw 19-7n-5e	*	3505
Shell et al, Boley 1, se se sw 8-11n-6e	*	4748
Seminole County—		
Delaney, Rodden 1, nw ne sw 13-6n-5e	*	2900
Simpson Roodhouse, Church Land 1, ne sw se se se 13-6n-5e	*	2760
Winkler, Bruner 5, sw ne ne 4-6n-6e	300	2828
W. A. Delaney, Swan 1, se sw sw 18-6n-6e (pb 2691)	81	2693
Atlantic, Damron 3-A, c s½ n½ se ne nw 22-6n-6e	68	2330
Wood, Harjo 1, ne ne se 2-8n-6e	240	4203
Angle & Angle, Peabody 1, sw sw nw 34-8n-7e	30	3163
Tillman County—		
J. Ben Russell and R. O. Ray, W. T. Hasley 1, nw ne nw 4-1s-19w	*	3460
Stephens County—		
B. F. Lundy et al, S. H. Oxford 1, s½ n½ ne ne sw 26-1s-4w	*	4204
Geo. L. Pace, Allen 18, nw ne sw se ne 3-2s-8w	100	2212
Tulsa County—		
Dundee, Church 1-A, nw nw se 11-17n-13e	*	1515
Monarch, M. Childers 1-A, c w½ e½ sw nw 11-17n-14e	*	1436
Pepos, Harrison 1-A, c n½ s½ sw se 15-18n-12e	5	1620
W. E. Hardesty, Davis 1-A, nw se se ne nw 26-19n-12e	5	1208

*Failures; †Junked; ¶Million cu. ft. gas.

Stockton 1, a small producer drilled by the same company. The two wells are across the Red River from the Cooke County, Texas, wildcat producer of the same company. Since both Stockton 1 and Best 1 in Cooke County are producing from the Deese member of the Pennsylvanian group, a play is in order for the area.

The Payne County wildcat of R. L. Kemp and associates, Rafferty 1, SEc NE 6-18n-5e, has failed to make a producer in the Wilcox sand after a showing two weeks ago. After a shot of 300 quarts at 3660-90 feet, it showed for small oil and substantial water and will be plugged back to higher sands.

West Texas Fields

Fourth acid job gets gas in southeast Sand Hills outpost. Gulf's Goldsmith lease has 100 oil wells, no failures.

Midland.—Cash consideration of about $250,000 was paid by Gilcrease Oil Company, San Antonio, for Bert Fields' Anna Gibbs-Conoco 274-acre lease, with 17 pumping wells, in the Crane-Cowden sector of the McCamey district. The property is in Section 93, and straddles the Crane-Upton County line. Production is from porous lime found at the 2250-2300-foot level. Continental Oil Company holds one-eighth overriding royalty, through having farmed out the lease for development in November, 1936. Turnovers of producing properties in West Texas have been comparatively few in recent years, although leases that carry undrilled proved locations are in constant demand.

Humble Oil & Refining Company et al's J. B. Tubb 1-B, southeast extension for the Sand Hills field, Crane County, was converted into a gasser after fourth acid treatment with 2500 gallons at 4430 feet. This outpost flowed 149 barrels of oil initial through ¼-inch choke, with gas/oil ratio of 4500/1 after three-stage acid treatment, and the big gas broke through after the fourth acid job for a rated flow of 6,000,000 feet daily through ¼-inch tubing choke.

100 Wells—No Failures

Gulf Oil Corporation, largest lease owner in the Goldsmith field, Ector County, has completed 100 oil producers on its C. A. Goldsmith 19,480-acre tract, and no dry holes. Goldsmith 100, near SW SE SW T&P Section 4, Block 44, T-1-S, earned a potential rating of 3480 barrels of 37 gravity oil, based on 12-hour proration gauge, through casing. Lime at 4200 feet was given 2-stage treatment with 4000 gallons of acid. The gas/oil ratio was 1175 feet per barrel. This property and the Cowden ranch operated jointly by Phillips Petroleum Company and The Pure Oil Company embraces the southeast two thirds of the field. Both operating units are observing 20-acre spacing, but are disregarding uniform footage from section lines in spotting wells in order to follow the most favorable contours. This procedure has enabled them to consistently score high well potentials.

Half-mile west extension for the Goldsmith field was in prospect when Atlantic Refining Company's T. P. Land Trust 1-D, SE NE SW T&P Section 21, Block 45, T-1-N, tested 1½ bailers of fluid hourly, including one third water, after 220-quart nitro shot at 4240-4318 feet.

Thinning of the geological section above the Delaware lime is credited to J. E. Fitz-Patrick et al's Dyer 1, west corner N¼ H&TC Section 135, Block 34, Ward County outpost for the Wilson pool. Dyer 1 logged base of salt at 4845 feet, or 2136 feet sub sea, and top of lime at 5081 feet. Location is 1½ miles west by south of the discovery, which opened the fourth Delaware oil area for the district last August. Completion of Dyer 1 will be delayed until Fitz-Patrick et al's Carr 1, situated 2 miles south of the discovery, is carried to the lime.

Magnolia Petroleum Company and Tex-Mex Petroleum Corporation's McKee 1-a, northern Pecos County Ordovician prospect, was drilling Ellenberger lime at 6169 feet, having topped same at 6102 feet. No shows of any consequence have been noted in the Ellenberger, although a small oil producer is available from the Simpson.

Frank Perkins et al's Cowden 1, southwestern Andrews County wildcat, yielded water each time after plugging back from 8012 feet and gun-perforating 5-inch pipe at 3 levels between 7666 feet and 7760 feet. Atlantic Refining Company's University-Texas Company 1, wildcat in south portion of county, proved dry when formation tester was used at 4378-4430 feet, and has resumed coring. Rhodes and Tompkins' E. Cowden-Sinclair 1, also a wildcat, was drilling lime at 3950 feet.

Outlying acreage from the site of the northeastern Gaines County wildcat being started by J. T. Perryman et al is commanding comparatively high prices on the strength of the geophysical surveys of the Cedar Lake area. Atlantic Refining Company paid $25 per acre cash for two 80's about 1½ miles northeast of the drilling site, which has been made on the C. H. Doak land, C NW NE D&W Section 43, Block H, 3 miles west of the lake.

R. H. Gill et al are negotiating a deal for the drilling of a 2½-mile northwest outpost for the Bennett field, Yoakum County. Gulf Oil Corporation is credited with having farmed out a portion of its S. J. Dixon lease, which expires October 9, 1938, to Gill et al for the drilling of Dixon 1, near C NE SE Section 611, Block D. One eighth of the minerals under Section 612 was acquired by Gill et al for $70 per acre. Development of the Bennett field has been confined to the discovery section and on the north, west and south borders. However, it is expected to embrace a large producing area when fully explored.

New Jones Field

Abilene.—Southeastern Jones County scored a new shallow pool when L. R. Terry et al's J. O. Bartlett 1, SEc T&P Section 59, Block 14, logged sand at 1600-1605 feet for an indicated initial yield of 100 barrels daily.

WEST TEXAS Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Andrews County (Means)—		
Humble, Means 43	720	4520
Andrews County (Wildcat)—		
Wheeler et al, F. E. Gardner 1...	*	4647
Cochran County (Duggan)—		
Devonian-Honolulu-Cascade, Duggan 1-B-17	222	5060
Cochran County (Wildcat)—		
Helmerich & Payne, Westheimer-Daube 1	*	5205
Crane County (McCamey)—		
Superior, Hughes 8	86	2285
Crane County (Sand Hills)—		
Humble et al, Tubb 1-B	216	4430
Ector County (Foster)—		
Cities Service, Bagley 5	1223	4268
Ector County (Goldsmith)—		
Gulf, Goldsmith 99	1912	4205
Goldsmith 100	3480	4200
Goldsmith 101	2152	4200
Goldsmith 102	1672	4195
Humble, W. F. Cowden 8-B	798	4185
Landreth Prod. Corp., Scharbauer 2-J	470	4200
T. P. Coal & Oil Co., Scharbauer 23	1589	4256
Scharbauer 28	806	4250
Scharbauer 29	1115	4240
Ector County (Harper)—		
Barnsdall, E. F. Cowden 13	1701	4170
A. G. Carter-J. W. Naylor, Parker 3	705	4237
Gulf, J. E. Parker 2	540	4200
Lee Drl. Co.-York-Harper, Inc., T. P. Land Trust 8	2255	4180
Oil Well Drl. Co., E. F. Cowden 4-A	709	4243
E. F. Cowden 5-A	1022	4240
E. F. Cowden 3-B	1719	4237
L. H. Wentz et al, Parker 8-D	976	4230
Ector County (Jordan)—		
Skelly & Atlantic, University 3-D	527	3640
Ector County (Judkins)—		
Texas Co., Connell 21	305	3660
Gaines County (Wasson)—		
Blackstock Oil Co., Wasson 1	1232	4977
Howard County—		
Ajax Drl. Co., D. H. Snyder 2	61	3216
Moore Bros. Corp., T. P. Land Trust 1-D	*	2900
Jones County—		
Danciger, Fain-McGaha 2	323	1954
Hedrick et al, Baker 1	*	2475
T. D. Humphrey, Young 1	*	2001
Iron Mt. Oil Co.-Humble, Peterson 1	4440	3238
Simmons et al, W. T. Young 1	*	2020
Pecos County (Masterson)—		
Childress Roy. Co., Shearer-Mid-Continent 1	*	1518
Pecos County (Torborg)—		
Broun et al, Tippett-Humble 20	31	531
Upton County (McCamey)—		
Basin Oil Properties, Baker-Conoco 3-A	112	2382
Humble, Ricker 18-B	282	2461
Ricker 23-B	374	2464
Ward County—		
Gulf, Hutchings 105	814	2760
G. W. O'Brien 95	207	2789
Humble, Richter 38	897	2913
Sahara Oil Corp., Johnson 1	126	2022
Sinclair Prairie, Sealy 3	¶1/3	3119
Archenhold 12	405	3020
Texas Co., University 1-B, sec 15..	*	3094
Winkler County (Kermit)—		
Magnolia, Walton 153	801	3265
Walton 154	2104	2945
Walton 155	1359	2945
Walton 156	803	2931
Winkler County (Keystone)—		
Richardson Oils, Walton-Humble 10-B	100	3422
Yoakum County (Bennett)—		
Honolulu Oil Corp., Bennett 5, sec 677	1191	5260
Yoakum County (Wasson)—		
A. G. Carter-Conoco, Willard 1	840	4996
Gulf, Futch 1	600	5160
Wynne, Tr., Willard 5	481	5001

*Failures; †Junked; ¶Million cu. ft. gas.

A New

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North Texas Development

Production holidays cure K-M-A pipe line congestion ills.

Field work increased despite low operating profit margin.

Wichita Falls, Texas.—Curtailment of the crude output of the K-M-A deep area to market demand for the June period has eliminated pipe line congestion, and is enabling the owners of completed wells without pipe line connections to obtain relief from the 5 majors that serve the field. Allowable quota per well was cut 16 barrels effective June 1 to adjust the total output to purchasers' nominations and to provide for the unconnected wells.

The revised schedule lists 443 flowing and pumping wells, with a base allowable of 16,934 barrels daily. However, the enforcement of 5-day production weeks throughout the month lowers the quota to 12,096 barrels daily. Single well on a 20-acre unit is allowed 21 barrels for acreage and 21 barrels for potential, making a base allowable of 42 barrels. Wells completed below the 4000-foot level are allotted an extra 5-barrel quota, or 47 barrels. Production penalty for the drilling of a second well on a 20-acre unit remains in effect, and the allowable is cut to 31½ barrels daily on the June schedule. The acreage factor is also applied to small producing sites, with the Valley View church lot well earning a base allowable of 22.57 barrels daily.

Similar proration restrictions are applied to the Panther pool deep horizon in Archer County, where 4 wells in the Strawn have a base allowable of 168 barrels daily.

The aggregate producing acreage in the K-M-A deep area, based on full and fractional units credited to the 443 wells, was 7,617.3 acres, according to the railroad commission's schedule. Estimated proved acreage is about 4 times the above figure.

Field Work Gains

Field work at K-M-A registered a slight gain the past week over the previous 7-day period. Continued shrinkage in the volume of drilling was forecast on the strength of the lower oil allowable. Wells prorated to a base allowable of 42 barrels will operate only 22 days during June for a gross output of 924 barrels, or a gross revenue of $1108.80. The deep oil commands a top price of $1.20 per barrel. The first completed well on a lease, including surface equipment, costs about $24,000, and additional flowing wells average $20,000 each.

K-M-A registered 24 new locations the past week, and operations began on 9 of the authorizations. Report on field activity lists 250 operations, including 78 locations; 104 tests in process of completion or at the final casing point. Rotary rigs were in service on 37 tests between the two casing points. Derricks and rigs accounted for 13 listings, while surface pipe has been landed for 8 projects. Ten tests were inactive.

Dalport Oil Corporation's Munger 2, NWc Lot 2, Block 24, near east edge of the Kadane sand area, gauged 60 barrels hourly average on 3-hour potential through ¾-inch choke after 240-quart nitro shot in 59-foot section of sand and sandy-lime topped at 3818 feet. Hole is bottomed at 3882 feet. This well showed for a natural flowing producer, but the nitro shot was utilized to attain a more favorable gas/oil ratio. It is lower structurally, having logged top of lime at 3712 feet, or 2688 feet sub-sea, than sand wells in the original Kadane sector.

Golding Estate and Cochran's D. P. Preston 1, SWc H&TC Section 27, Block 7, midway between the most westerly deep producer and the Kadane sand area, flowed by heads when tested in sand and lime at 3820-67 feet and sand at 3867-78 feet. This isolated producer registered a high structural position for the area in logging top of lime at 3749 feet, or 2618 feet sub-sea. Shell Petroleum Corporation and Phillips Petroleum Company's Reilly 1, west portion of the Floyd Jordan Survey, swabbed 86 barrels of oil and 125 barrels of salt water in 24 hours after 40-quart nitro shot at 3835-51 feet. The hole was plugged back from 3888 to 3852 feet. Top of lime was called at 3746 feet, or 2714 feet sub-sea. P. G. Lake, Inc.'s Griffin 1, near NWc Floyd Jordan Survey, failed to respond to dual nitro shots at 3987 feet, or 2896 feet below sea level, and has been abandoned. The company's Griffin 2, located 1427 feet east of the above failure, also has been listed as a failure in the Strawn.

Archer Deep Prospecting

Deep prospecting in Archer County was generally unfavorable the past week. An exception was Gray & Thweatt's W. P. Ferguson 1, NE SE NE S. P. Section 2, A-968, situated in the old Freeman-Hampton shallow pool and 1½ miles northeast of Mankins. This wildcat logged sand and shale with streaks of oil saturation at 3573-82 feet, and is coring to the main Strawn horizon. R. O. Harvey and Sinclair Prairie Oil Company's Perkins 1, Section 7, A.T.N.C.L. Survey, 4 miles southeast of Mankins, passed up the Strawn zone, and was drilling at 4480 feet, having topped the big lime at 3484 feet, or 2402 feet below sea level. Phillips Petroleum Company and F. T. Haynes' J. C. Arthur 1, GH&H Section 3, A-158, 5 miles south of Dundee, logged minor oil saturation while coring Strawn at 4165 feet. Base of Canyon was logged at 3610 feet, or 2420 feet sub-sea. Westmount Oil Company's T. J. Dempsey 7, Block 10; League 4, Denton County School Land, 1 mile northeast of Holliday, is awaiting orders after logging minor oil saturation in Oolitic lime at 4140-56 feet, followed by sandy-lime at 4164 feet. Pipe has not been set.

Fain-McGaha Oil Corporation and Humble Oil & Refining Company's Fuller 1, northeastern Archer County wildcat, encountered water in Ellenberger when deepened to 5142-59 feet. The hole has been plugged back to resume testing oil-saturated lime at 5109-36 feet. Adams Oil & Gas Company's G. Moer 1, eastern Archer County wildcat, filled with oil after plugging back from 4165 to 4160 feet.

TEXAS PANHANDLE Completions

Company, Well and Location	Int. Prod. Bbls.	Depth
Carson County—		
British-American O. P. Co., Block 5	438	3104
Gulf, E. Cooper 24	212	3191
Sinclair Prairie, Cooper 12	475	3100
Gray County—		
Kewanee Oil Co., Morgan 16, sec 149	605	3283
Magnolia, E. Haggard 10	283	3280
Stanolind-Magnolia, J. M. Saunders 5	388	3100
Hutchinson County—		
Mid-States Oil Corp., Whittenburg 10-B	746	2734
Phillips, Cockrell 32	550	3019
Rieger et al, Perkins 3-A	20	3021
Smith Bros. Ref. Co., Hodges 3	590	3085

*Failures; †Junked; ¶Million cu. ft. gas.

NORTH TEXAS Completions

Company, Well and Location	Int. Prod. Bbls.	Depth
Archer County—		
Beavers et al, Norred 1, sec 8	*	1305
Bridwell et al, Prideaux 1, sec 2	*	896
Camp Drl. Co. et al, Harmer 1, sec 2460	*	4511
Harry Hines & Hancock, Anderson 1, blk 18	*	4002
Jones & Perryman, Harmel 1-A, sec 2490	*	1431
Clay County—		
Bridwell Oil Co., Taylor 1, sec 24	*	1412
Metzner & Burns, Thornberry 4-A, blk 6	*	1123
Spicer et al, Hunt Bros. 1, blk 135	*	1325
Cooke County—		
Texas Co., J. W. Hess 2	*	1104
Haskell County—		
Forest Dev. Corp., Pardue 2	1488	2816
Jack County—		
Burgess & Hutchinson, Scott 1	*	800
Gray & Kendrick, Covington 1, sec 2	20	381
Hill & Hill, Hickman 2	218	3401
Murray et al, Peterson 8	10	360
Peterson 15	3	350
Reynolds & Spaulding, Canter 1	*	590
Montague County—		
Conoco, Hott 15	132	1761
Seitz-Comegys & Seitz, Roach 2-B	480	1755
Wichita County (K-M-A)—		
Barnes & Traugh, Kempner 2, blk 18	456	3866
Consolidated et al, Ferguson 8, lot 5	2784	3825
Deep Rock, Hamilton 2	2016	3812
Golding Est. & Cochran, Waggoner Bros 27-C, blk 16	592	3842
Manson Oil Co., Mitchell 2-B, sec 1	1040	3958
Mul-Berry Oil Co., Bradley 2	968	3819
Ray et al, Mitchell 4, blk 19	976	3850
Texas Co., First Nat'l Co.-Kemp 2, blk 26	888	3850
Waggoner Bros. 15-A, blk 28	1200	3830
Wallace et al, Logan 2-B, blk 21	864	3775
Wichita County—		
B. & M. Drl. Co., Williams-Parker 1, sec 25	8	681
Pois & Schultz, Foster-Allen 16-J, sec 2	182	1272
White & Duncan, K. T. Goetze 12	227	1678
Young County—		
C. F. Carter et al, Watson 1, sec 712	*	1003
Duncan-Holt & Marchman, Benson 30, sec 1391	115	900
Fain-McGaha, Dashe-Logan 1, blk 18	*	5090
T. D. Humphrey, Jeffery 4, sec 468	105	3926
Lion Oil Ref. Co., Kay 1	15	4268
J. A. Woods-W. B. Washington, Saunders 1, sec 1963	*	4136

*Failures; †Junked; ¶Million cu. ft. gas.

Louis Sikes and Johnson's Ford 1, T. Cecil Survey, 4 miles northeast of the Panther deep area, tested water after drilling plugs from 7-inch pipe cemented at 4170 feet to test oil saturation at 4178-4202 feet. This wildcat will plug back and gun-perforate pipe opposite oil shows logged in the upper Strawn.

Cooke County wildcat to test with pump

Wichita Falls, Texas.—The northeastern Cooke County wildcat oil strike by Sinclair Prairie Oil Company on the J. M. Best land, Thos. Toby Survey, A-1054, cored 5 feet of additional pay in the Deese (Strawn) member of the Pennsylvanian, and will install pumping equipment for a test gauge. The well swabbed and flowed an average of 110 barrels of 34 gravity oil daily during the first week, operating daytime only, from sandy-lime at 4887-95 feet. It was deepened to 4900 feet, or 4186 feet sub-sea, on June 8, and after being shut in for 12 hours made a head of 145 barrels of oil in 30 minutes, then quit. Location is 4 miles southwest of Coesfield and 1½ miles east of the Walnut Bend sector of the Red River.

Subsurface information gained from shallow failures and geophysical data indicate a large structure that extends across the river into Oklahoma. Close-in acreage is almost entirely held by majors. This new strike has failed to arouse the usual interest that has followed previous discoveries in North Texas near the Oklahoma border, and in all probabilities development will be retarded. Acreage to the south of the drilling block has been sold at $10 to $25 per acre since the well showed for a producer. C. & G. Oil Company, headed by E. B. Germany, Dallas, paid $10 per acre cash for lease on the J. H. Thomas 201-acre tract, embracing a portion of 3 surveys 3 miles southeast of the well.

Carson County well seeks gas, gets high-gravity oil

Pampa, Texas. — Semi-wildcat oil strike near the east border of Carson County and south of the buried granite ridge was scored by the Northern Natural Gas Company's A. J. Dauer 1-a, C NW H&GN Section 237, Block B-2, while prospecting for natural gas. The well developed a natural flow of 65 barrels of high-gravity oil daily from granite wash at 3060-65 feet and 3100-05 feet, with an elevation of 3294 feet. Light flow of gas was passed up in lime at 2753 feet and 2880-83 feet. The producer is 4 miles southeast of White Deer, and is northwest and west of several isolated oil wells that were also successful in developing oil along with gas on the south flank of the ridge.

Seven years of spasmodic drilling, fishing and shutdowns have been successfully weathered by Chicken Creek Oil Company in making a deep test of Ledrick Bros. 1, near C NE NW Section 55, Block "C," G. & M. Survey, which is drilling black shale and lime at 6808 feet with 2½-inch tools. Eight strings of pipe have been used in drilling this wildcat, which is about 30 miles from production, and 3-inch casing was set at 6365 feet. Top of dolomite lime was logged at 2298 feet, and base of Coleman Junction lime at 4050 feet, with an elevation of 2847 feet.

Indiana-Illinois Meet

[*Continued from page 67*]

Basin, it seems desirable at this time to give first consideration to the Devonian limestone, second to the Trenton and third to the St. Peter, Dr. Bell said.

Stripper Wells Discussed

Charles F. Hobbs, production superintendent of the Big Four Oil & Gas Company, Bridgeport, Illinois, in discussing "The Economic Aspect of the Stripper Well Producer," termed the stripper well as still one of the "most vexing problems to be solved in the development of crude oil." He urged that attention be given to the condition of the well so that oil may flow freely into the reservoir rather than force itself through obstruction or resistance caused by an accumulation of paraffin, sulphur, salt or other minerals; that there be a close relationship between the employer and the employee tending the lease; that equipment be kept in good condition and standardized to make unnecessary carrying an excessive stock of parts, and that there be a better understanding between producer and pipe line company, particularly with respect to the percentage of emulsion, which now is set at one-half of one percent, resulting in a loss to both the producer and the pipe line company.

"The application of Core Analysis to Well Completions" was the title of a paper prepared by John H. Campbell and James A. Lewis, and presented by Mr. Campbell, Illinois representative of Core Laboratories, Inc., Centralia. He outlined the history of core analysis, and discussed its value to the operator in determining production characteristics of each foot of recovered formation, approximate gas/oil ratio on exposing certain sections of production, qualitative productive capacity of the various oil bearing zones that are cored, actual productive capacity of sands that contain oils that are deficient in gas, gas/oil and water/oil contacts, spacing programs that will be adaptable to later secondary operations, and estimates of the total oil reserves and the net recoverable oil.

Boyd Talks Taxes

At the evening banquet session, W. R. Boyd, Jr., executive vice president of the American Petroleum Institute, declared a constantly growing tax burden, which has reached the equivalent of $1.05 per barrel of crude oil, was penalizing the industry. The tax bill last year exceeded $1,300,000,000, he said.

"Oil producing activities in Illinois and Indiana comprise only a small part of our industry's undertakings, yet the economic contributions of these two states are substantial," Boyd said. "Since 1889 the two states have produced some 556,373,000 barrels of oil with an economic value of $651,000,000. This is equivalent to one-fifth the value of all farm lands and buildings in both states. Currently your annual production adds $11,000,000 to the yearly income of the residents of these states. Your investment in producing properties exceeds $20,000,000. Your payroll disbursements are estimated at $1,000,000 yearly. Approximately another $1,000,000 annually is paid to farmers upon whose lands you operate."

Pennsylvania association meets in Pittsburgh soon

Oil men will convene in Pittsburgh, Pennsylvania, on the 16th and 17th of this month when the Pennsylvania Grade Crude Oil Association holds its fifteenth annual meeting in the city in which it was organized. A two-day program has been arranged for the association which includes crude oil producers, refiners, and marketers and jobbers of Pennsylvania oils in its membership.

On the list of speakers are a United States senator, a president of an automobile manufacturing company, marketing and advertising authorities, a trade journal publisher, in addition to several technical men who will discuss more specific phases of the industry. The association was organized in Pittsburgh in 1923; the headquarters offices are in Oil City.

W. F. Clinger, a producer and refiner of Warren, Pennsylvania, is president of the organization for the current year and will preside at the opening session.

Current merchandising problems will feature the topics of most of the addresses. Men who will speak on this subject are Senator Clyde L. Herring of Iowa, who is president of a Des Moines oil company which is a member of the organization; Charles C. Parlin of the Curtis Publishing Company, Philadelphia; Warren C. Platt, publisher of the National Petroleum News, Cleveland; and John Toigo of the Chicago office of Batten, Barton, Durstine, & Osborn, Inc., an advertising agency.

Harry G. Moock of the Plymouth Motor Company, Detroit, will discuss the sales outlook in the automobile field. The most recent developments in the refining industry will be the topic of an address by Dr. F. L. Carnahan of the Pennsylvania State College. The college has maintained a research program in refining for the past 10 years, and the results of these investigations will form the basis for this address. Another technical subject, that of oil reserves, will be discussed by Dr. R. E. Sherrill of the University of Pittsburgh. Dr. Sherrill is in charge of a portion of the geological survey being made by the commonwealth. C. B. McClintock, an Oil City geologist and petroleum engineer, will cooperate with Dr. Sherrill in the preparation of this paper.

Fayette B. Dow, Washington, D. C., vice president and general counsel of the association, will discuss some aspects of the legislative situation in his address at the closing session.

New Centralia pipe line system

Owensboro Corporation, subsidiary of Standard Oil Company of Ohio, late last week was completing a new pipe line connection from the Centralia, Illinois, field to the Sandoval field, and expected immediately on finishing the line to raise crude takings at Centralia from 40 to 50 barrels per well daily.

East Texas Fields

Extension indicates Flag Lake trend may go to river. Chapel has distillate completion delayed by accident.

Tyler, Texas.—The production trend to the southwest and parallel to the fault plane that is responsible for Woodbine oil in the Flag Lake pool, northwestern Henderson County, may extend to the Trinity River. A half mile extension in this direction is assured from Richards & Holloway's Tarkington Bros. 1, W. K. Newell Survey, which is awaiting production test after logging oil saturated sand at 3047-61 feet, with pipe cemented at 3045 feet. Top of the Woodbine series was called at 2998 feet, with an elevation of 321 feet. The oil horizon is being found at a lower sub-sea depth along the southwest trend, but more gas is present in the sand. The five completed wells are dependent upon tank truck shipments for market outlet.

Hunt Oil Company's Bradley 1, deep gas distillate producer in process of completion in the Chapel Hill area, eastern Smith County, encountered more difficulties when a string of tubing was dropped inside the drill pipe, which was cemented in the hole as protection against a blowout from lower Glen Rose pay at 7528 feet. Production was revived for four hours June 7 and the well produced five barrels distillate an hour through chokes ranging from 3/16 to ⅛ inch. Gas volume was rated at 5,000,000 feet daily. Tubing was dropped when an effort was made to clear the clogged stem.

Humble Oil & Refining Company's Holland 37, first test drilled in East Texas field to the Paluxy horizon, a potential oil zone, has had no encouragement for oil or gas production in coring at 5247 feet. Top of Paluxy series was called at 5045 feet. Situated near the Gregg-Upshur County line, this test is to be used as a salt water disposal well.

EAST TEXAS Completions

Company, Well and Location	Int. Prod. Bbls.	Depth
Joiner Area—		
Atlantic, Griffin 15 (80-ac)	1200	3693
Pinkston 4-B (24-ac)	3600	3699
British-American, Murphy 10 (38-ac)	6800	3620
DeMontrond Oil Corp., Pinkston 10 (24.8-ac)	7000	3597
Gulf, Murphy 15 (79.56-ac)	8000	3750
Humble, Young 4-A (25.48-ac)	10,000	3696
Hunt Oil Co., Thrash 11 (57.33-ac)	7600	3717
Wooley 12 (53.15-ac)	2400	3696
Magnolia, Flannagan 7 (76.29-ac)	3600	3675
Markham et al, Cook 7 (20-ac)	1500	3753
Ohio, Moores 46 (200-ac)	1500	3704
Powell et al, Moore-Mydia Negro Church 1 (½-ac)	7100	3688
W. A. Wise-F. S. Markham, Cook 5-A, (8-ac)	2000	3751
Kilgore Area—		
British American, Thompson 7 (25-ac)	6800	3630
Davis & Hart, Elder 4-B (21-ac)	126	3542
Everts Drl. Co., Barton 4 (1.3-ac)	4500	3598
Gulf, Spear 45 (93.72-ac)	5000	3558
Hanbury et al, Morse 3 (2.54-ac)	5800	3636
Island Oil Co., Register 10 (37½-ac)	5400	3630
James & Co., Lacy 15 (21½-ac)	4200	3551
Lacy 18 (21½-ac)	4000	3600
Magnolia, W. P. Moore 21 (152-ac)	9800	3680
Wills 16 (100-ac)	6200	3595
Overton Ref. Co., Jones 2-a (7.9-ac)	432	3668
Riverside Prod. Co., Luse-Walker 8 (26-ac)	5500	3558
Luse-Walker 9 (26-ac)	5000	3558
Luse-Walker 11 (26-ac)	4500	3579
Shell, Watson 78 (285.2-ac)	9200	3666
Willoughby 20 (57.7-ac)	4000	3626
Willoughby 21 (57.7-ac)	4300	3625
E. L. Smith Oil Co. (Lion), Register 8 (29¼-ac)	6100	3556
Tide Water Associated, Barton 32 (194-ac)	10,000	3615
Longview Area—		
Arkansas F. O. Co., McKinley 16-B (69.01-ac)	7700	3650
Atlantic, Burnside 37-A (204.02-ac)	8000	3630
Deep Rock-Murphy, Pritchard 18 (110-ac)	10,000	3541
Pritchard 19 (110-ac)	10,000	3540
Ellis Oil Co., Mackey-Humble 6 (147-ac)	3500	3685
Flannery et al, York 2 (20.02-ac)	9000	3590
Gen'l American Oil Co., Sanders 8-a (75.66-ac)	4000	3588
C. A. & T. W. Lee, Walker 3-A (4½-ac)	1500	3591
Magnolia, Tate 10 (67.58-ac)	6800	3435
Tuttle 9 (48-ac)	8700	3617
B. F. Phillips-John Pekros, G. Jackson 1-B	•	3600
Phillips et al, H. L. Phillips 1 (126-ac)	15	3711
Roosth-Genecov, Richey 3 (2.39-ac)	7500	3568
Sabinas Oil Corp., T. M. Collins 18-C (89-ac)	5300	3661
Southland Drl. Co.-United E&W Oil Co., O'Byrne 46 (304-ac)	†	3786
Stanolind, Fenton 19 (93.24-ac)	6000	3619
Stanolind-Atlantic-Sun, Hays 20 (102.63-ac)	9700	3562
Superior, Pritchard 7-B (40-ac)	9600	3552

Labor

[*Continued from page 61*]

lative representatives of organized labor. At the close of his speech the governor lauded the organization on making remarkable strides, securing shorter hours, better working conditions and a better scale of wages for its members by perfectly lawful and legitimate means.

Smith Cites Success of NLRB

Speaking before a large attendance of delegates, Edwin S. Smith of Washington, member of the National Labor Relations Board stated that the board had assisted labor materially in its concerted campaign for collective bargaining and social benefits. Giving statistical data pertaining to the activities of the board, he stated that since the Supreme Court's decision validating the Wagner Act, the board had received between 800 and 1000 cases from the 22 regional offices monthly. To date, the NLRB had been credited with settling 1173 strikes and averting 556 threatened strikes, involving about 250,000 workers, Smith stated. In reviewing the organization of labor during the past several years, he said that throughout the country more and more workers are, through collective bargaining, exercising a real say as to their wages and working conditions, thus assuring a good augury for perpetuation of the country's democratic system.

Several other speakers at the convention particularly emphasized the necessity of harmony and cooperation among the different labor groups in order to prevent internal bickering.

Company, Well and Location	Init. Prod. Bbls.	Depth
Angelina County—		
Bonham et al, Cameron Lumber Co. 2	•	2565
Franklin County (Talco)—		
Humble, Wims 4-B (79-ac)	262	4301
Titus County (Talco)—		
Humble, Belcher 5 (166.37-ac)	227	4342
Galt 8 (80-ac)	345	4271
Pan American 6 (79.56-ac)	149	4279
Ellis County—		
Ivy et al, Cerf 1	•	800
McLennan County—		
Kilgore et al, Marrs 1	•	1465
Navarro County—		
Ivy & Sitton, Marshall 1	•	696
Marion County (Jefferson-Rodessa)—		
Arkansas F. O. Co., Holland 3, Jno. Hanks sur	150	6118
Illinois Oil Co., Hale 1, Jno. Hanks sur	360	6039
Ohio, Moseley 2, J. P. Francis sur	393	6117

•Failures; †Junked; ¶Million cu. ft. gas.

Rodessa had 1000 wells on May 31 this year

Shreveport.—The Rodessa field, discovered in July, 1935, had an even 1000 wells May 31, 1938, which had a daily average production on that date of 83,990 barrels.

The following table shows ownership of wells by companies and their daily average production:

Company	No. wells	Daily Av. production
American Liberty Oil Co.	30	1672
Arkansas Fuel Oil Co.	45	2228
Freeman W. Burford	34	1989
Gulf Oil Corp.	20	1414
Magnolia Pet. Co.	127	14,890
R. W. Norton	39	3833
Ohio Oil Co.	18	1321
Phillips Petroleum Co.	49	4516
Shell Petroleum Corp.	17	2368
Standard of Louisiana	82	7188
The Texas Co.	25	2468
Tide Water Associated Oil Co.	16	1020
Union Producing Co.	249	21,834
Miscellaneous	249	17,249

The 1000 wells are divided among the three states as follows: Arkansas, 92; Louisiana, 458; and Texas, 450. The per-well average of Louisiana wells was 85 barrels; of Texas wells, 85 barrels; of Arkansas wells, 78 barrels, or a per-well average for the field of 84 barrels.

Barbacoas extension may be separate production

Mission.—A new producing area about 2½ miles northwest of Barbacoas field appeared more certain late in the week with Lee S. Davis' Garcia 1 being completed in Frio sand at 2650-59 feet. The well showed for a good producer on drill-stem test, following which casing was set.

It is a south offset to Garcia 1, completed as a gasser spraying oil in the same sand. Garcia 1 was an unfavorable completion and will be reworked. It has not been definitely determined, but some considered this an extension to the Barbacoas field, while others classify it as an entirely new producing area for the Starr County district.

Willacy County's third 10,000-foot well was shut down for orders late in the week. It is Sal Vieja Oil Corporation and Continental Oil Company's Garcia Land & Cattle Company 1, which has been drilled to 10,007 feet.

Phillips Petroleum Corporation's new well in the Sam Fordyce field, Hidalgo County, will be carried to 7500 feet and will test the Cockfield formation.

Southwest Texas Fields

Red Fish Bay completion may cause trend play.

New sand for Turkey Creek; Alice gets extensions.

Corpus Christi.—Two new oil pools were in prospect for the Lower Texas Gulf Coast late in the week. One apparently is the first submerged wildcat strike, while the other is on trend with a present Frio sand trend play.

Coast Line Oil Company's State of Texas 1, west corner of Section 320, State Lands, Nueces County, was preparing to perforate casing. The well drilled to 8660 feet, ran electric formation tester to 8595 feet and landed 7-inch casing at 8637 feet. A series of perforations will be made at 8570-80 feet, 8515-30 feet and 8250-65 feet, all in the Frio, and 7330-50 feet, in the Marginulina. The well, 2½ miles southeast of Aransas Pass and in Red Fish Bay, is South Texas' first well to be drilled in wildcat territory in submerged lands.

May Cause Trend Play

This discovery, if successful, will be the result of wildcat drilling on trend and on a geophysical prospect shot by a number of major oil companies.

San Patricio County had the other possible discovery, being Atlantic Refining Company's D. F. Jones 1, northern portion W½ SW Section 72, and 3 miles northeast of the East White Point field. The test drilled to 6010 feet and set 5½-inch casing at 5370 feet. An electric formation tester indicated possible production in the top 8 or 10 feet of sand topped at 5297 feet. The whole sand zone was logged 5297-5324 feet.

Renwar Oil Corporation added a new sand in the Turkey Creek field, Nueces County, with M. S. T. Kenedy 2-B, which perforated at 6433-36 feet. The well drilled to 6456 feet, finding sand 6430-36 feet and setting casing on bottom. The well flowed 49.66 barrels of 28 gravity pipe line oil in 8 hours through 5/32-inch choke under pressures of 780 pounds on tubing and 1150 pounds on casing.

Alice field, Jim Wells County, was given several slight extensions by outpost producers in the Vicksburg sand. Pan American Production Company made a deal acquiring Callaway et al's Cooke Lease in the eastern portion of the field. The deal is reported to have included the financing of the completion of the discovery well, drilling of three additional wells and considerable cash for a one-half interest.

Duval discovery completion delayed by faulty shut-off

Laredo.—Mirando district's newest oilfield was awaiting its birth as Arkansas Fuel Oil Company's Cuellar Brothers 1, Section 96, Duval County, prepared to reperforate in Pettus sand logged between 5110-36 feet. The well, five miles southwest of San Diego, drilled to 5509 feet, set casing on bottom and perforated at 5405-10 feet, where it tested salt water with considerable pressure and a little oil. The well then was plugged back and perforated at 5109-20 feet with 49 shots and was swabbed down to 2000 feet, recovering wash water, a little salt water, some oil and a little pressure. The water is believed to be the result of a bad cement job and the well has been recemented.

Northwest of this well, the new Fitzsimmons pool, also Duval County, development has commenced with three wells started as offsets to the discovery and two outposts are moving in. One is one mile northwest of production, while another is three fourths mile southwest.

These two new strikes brings about increased interest in Duval County.

Another sector of the county in the path of the development is the Seven Sisters-Loma Alto trend, in which several wildcats are commencing. They will be well cored from the top of the Cole sand to the Pettus zone.

Dimmitt County wildcat fails because of salt water

San Antonio—Efforts to cut off salt water intrusion apparently have failed and preparations are being made to abandon Paul C. Teas and The Maryland Corporation's S. E. McKnight 1, Dimmitt County wildcat. The test appeared to be the opener of a new field for the Chittim anticline and establish the first production in Dimmitt County. Another test is reported to be planned, which likely will be carried through the several Midway and Navarro sands which showed for production in the first test.

The well, located in Section 23, four miles northwest of Carrizo Springs, had been drilled to 7141 feet or 71 feet into the Edwards limestone, where it failed to produce. It sidetracked and attempted completion in gas sand in the Navarro at 2447½-65 feet. Salt water broke in, apparently from nitro shots which had been made in the original hole.

Wellington Oil Company's Chittim 1-A, Section 156, 3¼ miles southeast of the Chittim field, Maverick County, and on the Chittim anticline, was still testing. It was showing for a gasser after hole was plugged back to 5560 feet from 5891 feet. Casing had been set at 5471 feet, porous limestone with oil and gas show having been logged at 5485-5506 feet. The test was acidized before completion was attempted.

Tuxedo Drilling Company's L. E. Graham 1, Crodea Survey, Milam County, and 2½ miles northwest of sharp, was testing an Edwards limestone showing as the week ended. The well topped the formation at 1798 feet, the first 8 feet being hard. Two one-foot cores to 1808 feet failed to recover anything. Tubing was set on a packer and mud with an oil odor was swabbed. Tubing has been lowered to the top of the lime for another test.

SOUTH TEXAS Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
LAREDO DISTRICT		
Duval County—		
Brinkoeter, Rodriguez 2-B (Seven Sisters)	70	1510
Cox & Hamon, Hoffman 5 (Hoffman)	75	2711
Duncan, Neely 1, — miles southwest Charamousca	*	2020
Worden & Drought 19 (Charamousca)	128	2615
Duval, Hoffman 8 (Hoffman)	25	2750
Gravis & Doran, Puig 12, (North Sweden)	450	4784
Magnolia, Duval County Ranch 18 (203) (Piedre Lumbre)	75	2067
Well Estate 3 (Hoffman)	200	2812
Navarro, M. Rossi 4-A (North Sweden)	425	5340
Schimmel, Foster 1 (Eagle Hill)	107	1539
McMullen County—		
Winebrenner, Teal 1, Kuykendall sur	*	905
Starr County—		
Moss & Heard, Ricaby 7 (South Ricaby)	¶2	1405
Webb County —		
Moore, Garcia 1 (Oilton)	*	2503
Phillips, Benavides 1-A (Cole-O'Hern)	40	2843
Zapata County—		
Bryant, Flores 1-A, 10 miles southwest Comitas field	*	3125
Texas Company, Jennings (Whitehead) 115 (Escobas)	40	1262
CORPUS CHRISTI DISTRICT		
Calhoun County—		
Buchanan & Blanco, Morris & Dunwoody 11, Heyser	525	5595
Humble & Plymoth, Welder 17 (Heyser)	500	5478
Sinclair, Bennett 14 (Heyser)	600	5625
Jim Wells County—		
Conroe, Lindsay & Reed, 1 (Alice)	†2 & 200	5606
Howell, Lindsay & Reed 2 (Alice)	600	5328
Karnes County—		
Dirks Bros., Choate 4 (South Burnell)	*	3650
Live Oak County—		
Holland & Smith, Matikin 5 (Ezzell)	225	1497
Nueces County—		
Camp, Wardner 5 (Stratton)	400	6468
Cosner, LaPrelle Jr. 1, (Luby)	*	6018
Humble, Webb 15 (Flour Bluff)	600	6655
Renwar, Harrington 3 (Turkey Creek)	425	5825
Kenedy 2-B (Turkey Creek)	500	6456
McKenzie 5 (Turkey Creek)	750	5812
McKenzie 11 (Turkey Creek)	825	5786
Seaboard, Luby 22 (Luby)	500	5073
Smith, Walton 2 (Saxet)	77	4903
Southern Minerals, King 8 (Bentonville-King)	300	4022
Refugio County—		
Allen, Rooke 1, 5 miles south of Woodsboro	*	4568
Copano, O'Connor 1 (Tomoconnor)	1200	5935
Nordan, O'Connor 6-B (Tomoconnor)	1100	5915
Quintana, Heard 18 (Tomoconnor)	3000	5923
San Patricio County—		
Humble, Smith & Tolbert 2 (East Plymouth)	*	6750
Plymouth, Brigham 1-B (East White Point)	550	5663
Welder 99-C (Plymouth)	500	5875
Victoria County—		
Echols, Bennett 10 (Heyser)	650	5564
Echols, Lander 1-B (Heyser)	625	5520
Gulf, Bonner 3 (Heyser)	¶½	6217
Seaport, Diener 2 (Heyser)	650	5490
SAN ANTONIO DISTRICT		
Atascosa County—		
Allison, Mischwitz 1, Garza sur	*	250
Surley & Phalon, Kirsch 1, sec 1207	*	217
Caldwell County—		
Martell, Young 3-C (Branyon)	110	2174
Taylor, Brown 4 (Luling)	40	2142
Guadalupe County—		
Seidemann & Pfaunstiel, Tasto 1, 12 miles southeast of New Braunfels	*	315
Spiller, Wright 2 (West Dunlap)	45	2422
Wiegand Bros., Anderson 1 (Nash Creek)	*	2835
Maverick County—		
Wellington, Chittim 1 (Chittim)	¶¾	5688
Travis County—		
Rips, Thaxton 1, Santiago del Valleo gr.	*	750
Smith, Morell 1, McHerby Winburn sur	*	1105

*Failures; †Junked; ¶Million cu. ft. gas.

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Texas Gulf Coast

Pure and Humble give Dickinson double extension.

Flank attempts at Fairbanks and Orange abandoned.

Gulf prepares to test new sand at Cleveland.

Houston.—The southwestern portion of Dickinson field, Harris County, sometimes referred to as Gillock, is being extended in two directions. Approximately 2500 feet east of production at Gillock and in the J. Sellers Survey, Humble Oil & Refining Company was squeezing perforations in Fream 2, which showed oil and salt water on a test. Casing was perforated from 8088 to 8096 feet with 20 holes. After washing it came in flowing 27 barrels of fluid per hour, 30 percent salt water, through a quarter-inch choke. Tubing pressure was 1000 pounds and casing was sealed. Fream 2 was drilled to 8443 feet in shale and seven-inch casing was set on bottom.

Forty-five hundred feet southeast of Gillock, Pure Oil Company was running 5½-inch casing in Maco Stewart 1 at 8215 feet. The extension well has cored broken formations showing oil from 8168 to the bottom. Some time ago it blew out at 7636 feet making gas and mud and blowing for 17 hours before it was killed.

Hitchcock Extended

East of production at Hitchcock, Galveston County, Maco Stewart's Fee 2, J. Spillman Survey, was flowing an estimated 20 barrels of 30.8 gravity oil per hour through a quarter-inch choke. Tubing pressure was 565 pounds and casing pressure was 700 pounds. Fee 2 was drilled to 5151 feet and after setting casing it was perforated with 46 shots from 5131 to 5149 feet.

Sun Oil Company's two wildcats on the Bolivar prospect in Galveston County were shut down last week. Cade 1, A. Dickson Survey, was down to 8094 feet with a stuck drill stem. Atkins 1, B. Franks Survey, was shut down waiting on equipment at 7135 feet.

After abandoning Houston Deep Water Land Company 1 at 6900 feet, Jack Frazier made location for a second deep water prospect test on the same lease. It is in the center of the east 50-acres of a 200-acre tract or approximately 7000 feet from the west line and 1200 feet from the south line of the T. Earle Survey, Harris County.

On the southwest side of Fairbanks field, Harris County, Housh and Thompson abandoned Arriola 1, G. Williams Survey at 6968 feet after coring salt water sands. Approximately one mile south and west of production at Fairbanks, E. M. Hailey made location for Fisher 1 in the A. Ayers Survey.

Merit Oil Company's "high well" at Crosby, Harris County, F. Rankin Survey, was coring in shale at 7625 feet at the end of the week. Grey Smith 1 logged geological markers higher than other wildcats drilled in the district.

On the southwest side of Orange field, Orange County, two wells were abandoned last week. W. V. Bowles' Scales 1, William Dyson Survey, was abandoned at 6211 feet after making several tests. All the tests showed salt water. C. L. Brown's Chesson B-1, William Dyson Survey, was plugged at 6076 feet after coring salt water sands from 6065 to 6076 feet.

At Pledger, Brazoria County, Danciger Oil & Refining Company will probably complete Carter 1, Grey and Moore Survey,

TEXAS GULF COAST

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Amelia—		
Humble, Phelan 12	594	6776
Anahuac—		
Humble, Zappe 14	54	7093
Barbers Hill—		
Texas Gulf, Barber 2	350	5636
Brenham—		
Freeport Sulphur, Sudenhusen 1..	*	1397
Cedar Point—		
Salt Dome and Standard of Texas, State 1-119	432	5982
Dickinson—		
Bennett Prod. Co., Levine 1	740	8137
Ken Ben, M. Stewart 7	611	8985
Pure, Outterside 3	147	8129
Eureka—		
Alamo and Houston Oil Co., Lackner 3	600	7745
Houston Oil Co., Lackner 2	509	7753
Fairbanks—		
Amerada-Stanolind, Denman 1	639	6848
Sebek 1	91	6878
Housh and Thompson, Arriola 1	*	6968
Showers and Moncrief, Reid 1	483	6840
Five Corners—		
Texas Co., Pierce Estate B-18	295	5552
Friendswood—		
Humble, Beamer 9	576	6048
Cottingham 2	540	6060
Goodwin B-3	565	6044
Ross 3	595	6044
Hardin—		
Atlantic, Richardson 1	516	7596
Wilson 1	502	7615
Fohs, Finley 2	510	7652
Hastings—		
Humble, Alexander 6	640	6060
South Texas Grain 10	106	6113
Stanolind, Drake 19	700	5550
Grote 10	680	5290
Matsushita 4	598	6080
High Island—		
Stanolind, Cade 65	30	5727
Markham—		
Hamil Drilling Co., Myers 3	*	2500
Old Ocean—		
Harrison & Abercrombie, Augoburger 1	300	10,433
Troyer 1	300	10,315
Orange—		
W. V. Bowles, Scales 1	*	6211
C. L. Brown, Chesson B-1	*	6080
Pierce Junction—		
Rio Bravo Oil Co., Fee 13	250	4216
Tomball—		
Humble, Reid 17	484	5563
Shell, Stehly 3	597	5560
Turtle Bay—		
Stanolind, Barnes B-1	136	6624
West Beaumont—		
Stanolind, Howeth Keith 2	489	5395
West Columbia—		
Frost & Dunnam, Parker 1	528	5411
Texas Co., Abrams 21	512	5700
Withers—		
Texas Co., Pierce Estate C-48	86	5550
Harris County—		
Frazier and Bunte, Houston Deep Water Land 1, Deep Water area, T. Earle sur	*	6900
Trinity County—		
Bonne and Jordan, Crouch 1, n of Trinity, J. Clapp sur	*	2640

*Failures; †Junked; ‡Million cu. ft. gas.

as a gas and distillate producer. The well was drilled to 6924 feet, and after coring broken formations showing gas and distillate from 6567 to 6916 feet a string of 7⅝-inch casing was set. Salt water sands were logged from 6916 to 6921 feet.

At Old Ocean, Brazoria County, Harrison & Abercrombie completed two 10,000-foot wells. The exact production gauge has not been given out, but it is estimated that each well flowed around 300 barrels of high gravity oil daily through various size chokes. Augoburger 1 was completed after drilling to 10,433 feet and Troyer 1 was completed above 10,315 feet. Both wells were perforated.

In Galveston Bay, offshore of Chambers County, Humble Oil & Refining Company was coring below 6100 feet in State 3-95, Cedar Point field. This depth is below the established producing horizon. Broken formations with traces of oil were cored from 5950 to 5990 feet.

In Liberty County on the Batson Prairie prospect, Sun Oil Company made location for C. Jordan 1, 660 feet north and 660 feet west from the southeast corner of a 100-acre tract in the L. Gedruf Survey.

At Cleveland field, Liberty County, Gulf Oil Corporation is preparing to test a new sand. After drilling to 10,075 feet, the deepest in the field, Kirby C-21 was plugged back and casing is to be perforated from 9347 to 9357 feet. This is the deepest horizon that has been tested. It is reported that Kirby C-21 was drilled to the Wilcox horizon.

The second well to be drilled to the 6200-foot producing horizon at Segno showed salt water on a drill stem test. Gulf Oil Corporation, the discoverer of the deep sand, drilled S. Wing 5, I. & G. N. No. 13, to 6273 feet after topping a gas sand at 6267 feet. The first drill stem test from 6263 to 6273 feet failed and the second from 6267 to 6273 feet showed 870 feet of salt water in 10 minutes.

Spanish Camp gas field, Wharton County, received two locations last week. Humble Oil & Refining Company made its first location in Hudgins 1, 2640 feet out of the south corner of a 767-acre tract and 2640 feet northeast of the southwest line and 2640 feet northwest of the southeast line of the E. McKenzie Survey. Albert Plummer's Sorrell 2 is 660 feet northeast of Sorrell 1 and parallel to southeast line of M. Sorrell 125-acre lease in the S. F. Austin Survey.

Texas permits jump to 355 during week

Permits for drilling 355 new wells in Texas were approved last week by the Texas Railroad Commission, 223 more than were allowed the week before.

Operators in the East Texas field were allowed 97 locations, including 50 in Rusk, 37 in Gregg, and 10 in Upshur County, while 14 locations were reported for the remainder of the East Central Texas area.

The Gulf Coast district topped the list with 99 permits, including 39 in Harris and 11 in Nueces County. Southwest Texas operators reported 41 new locations, including 12 in Duval and 11 in Jim Wells County.

Permits for drilling 35 new wells were approved in West Texas, while 16 were allowed in West Central Texas.

There were 39 permits approved in the North Texas area, with 16 in Wichita and 13 in Jack County. Panhandle producers reported 14 locations.

South Louisiana

No dope on deepest well; production test under way.

Production at Lafitte is extended to northwest.

Lake Charles.—The world's deepest commercial oil producer may be Fohs Oil Company's Buckley-Bourg 1 at West Dulac in Terrebonne Parish, already the second deepest well in the world. It may also establish a new oil field for the South Louisiana country. Although no authentic information has been given out by the company, it is believed that Buckley-Bourg 1 will be tested from 13,205 to 13,280 feet the coming week. The well was drilled to 13,333 feet, greatest depth ever drilled in the Louisiana Gulf Coast. The company set a string of five-inch liner from 11,340 to 13,332 feet. An electrical logging device was run before setting the liner and it is reported to have shown around 65 ohms.

This wildcat may be the forerunner to ultra-deep drilling. It is understood that the test is still in Miocene formation. Fohs Oil Company, which several times attempted to plug the well back before reaching 13,333 feet, has been withholding information on the well because of the unusual conditions in the hole.

Fohs Oil Company has another interesting wildcat southeast of Lirette in Terrebonne Parish. State Bay Baptiste 1, Section 41-18s-19e, was preparing to drill ahead below 12,515 feet. Seven-inch casing was set at 12,215 feet. Little information is being given out on the wildcat but reports are the well has logged several sands up the hole which looked encouraging. Production has been obtained at Lirette at 11,630 feet and above. One well drilled on the flank logged sands below 12,000 feet. Showings in the firm's Buckley Bourg 1 may prompt the operators to carry State Bay Baptiste to 13,000 feet or deeper.

One on Jennings Flank

On the southeast side of Jennings field, Acadia Parish, Stanolind Oil & Gas Company completed Houssiere Latrielle 19, Section 47-9s-2w, in a deeper horizon, but is thought to be the same sand that other wells are producing from. The well was completed at 7540 feet after perforating casing with 38 shots. It came in flowing 288 barrels of 36 gravity pipe line oil in 10 hours

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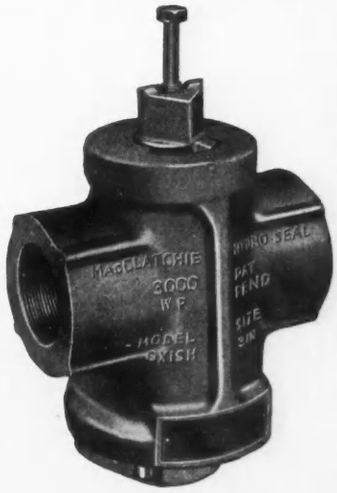

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through a 3/8-inch choke, with a tubing pressure of 532 pounds and a casing pressure of 1360 pounds. The well was drilled to 8438 feet in a sidetracked hole, plugged back, and tested at several different levels before completing.

Although the exact information is not available on T. G. Markley's Gulf Haber Fee 1 on the northwest side of Jennings field, it is believed he has logged enough sand to make an oil well. If productive, this will be a new one for the northwest side of Jennings and will extend the field. The hole is bottomed at 7313 feet. Seven-inch casing has been set.

One of the best oil wells to be completed at Jennings is Harry Fotiades' Washington & Opelousas Oil Company 2, Section 41-9s-2w. The well came in flowing 1080 barrels of 32.5 gravity oil daily through a quarter-inch choke from 6665 feet. Tubing pressure was 2000 pounds and casing pressure was 1900 pounds. It is understood that the operators received a high allowable for this well.

Gas at Vermilion Bay

Vermilion Bay prospect, Iberia Parish, has shown that it will produce gas. Last week while drilling cement plugs The Texas Company's State Vermilion Bay B-2, 15s-5e, the well blew out making dry gas, no oil at 9667 feet. The crew set 2990 feet of 5¾-inch casing at 9667 feet and when plugs were drilled the well started blowing dry gas.

The Texas Company's State 1 at Fausse Point, 35-11s-8e, Iberia Parish, showed a little oil on a production test last week, but not in profitable quantities. The setting will be pulled and casing will be perforated higher. Last week the crew perforated casing from 7910 to 7935 feet with 71 holes, and after setting screen and liner the hole was swabbed. It showed oil and wash water.

The Texas Company has made location for State Lake Peigneur 1 at Jefferson Island. It is 691 feet north, 201 feet west of the operator's Bayless & Jones 1, or 1328 feet south and 983 feet west from the northeast corner of The Texas Company's Jefferson Island lease in 12s-5e.

Lafitte Extended

Lafitte field, Jefferson Parish, was extended northwest when The Texas Company completed Madison Realty Company 1-B, Section 19-17s-24e. It made 1756 barrels of 35.7 gravity pipe line oil daily through a 3/8-inch choke from 10,050 feet. Casing pressure was 1450 pounds. Madison Realty Company 1-B was perforated with 58 holes from 10,000 to 10,050 feet.

The first operator to complete a well at Charenton since Pan American Production Company took the properties over from Mike Hogg in the Fifteen Oil Company, which completed Dolph Parro 1 at 6693 feet in a new sand. It is producing between the horizons established at 5000 feet and 7200 feet by Pan American Production Company. Parro 1 was perforated with 26 shots from 6658 to 6693 feet. It came in making 30 barrels of pipe line oil daily and increased to 182 barrels during the week through a 7/32-inch choke. Later the well increased to 260 barrels of 39.6 gravity oil daily through a 7/32-inch choke and the production is still increasing. Tubing pressure was 2300 pounds and casing pressure was 2650 pounds. Pan American Production Company is preparing to offset Parro 1.

Herton Oil Company will probably complete another well in the new deep sand at Jeanerette, St. Mary Parish. Roanes Sugar Company A-1, Section 38-13s-9e, was testing at 10,404 feet in oil sand. Top of the sand was logged at 10,386 feet. The company logged broken shows for approximately 100 feet up the hole.

In St. James Parish and on the Convent prospect, where Continental Oil Company is drilling below 7000 feet in a deep test, it has made location for another well. Colonial Sugar Company 1 is 7263 feet north along the east line of Section 5 from the Mississippi River bank, thence west at right angles 440 feet in Section 46-12s-5e.

Fohs Oil Company recemented State Long Lake 4 at Lake Long, 17s-19e after perforating casing from 10,418 to 10,434 feet with 23 holes. The well showed oil and water on a drill stem test. After cement hardens the operators will make another test of the new sand. State 4 was drilled to 10,473 feet in shale. Sand with a good odor and cut was logged from 10,423 to 10,432 feet and a sand with an oil odor was encountered from 10,454 to 10,472 feet. Five-inch liner was set from 10,126 to 10,472 feet.

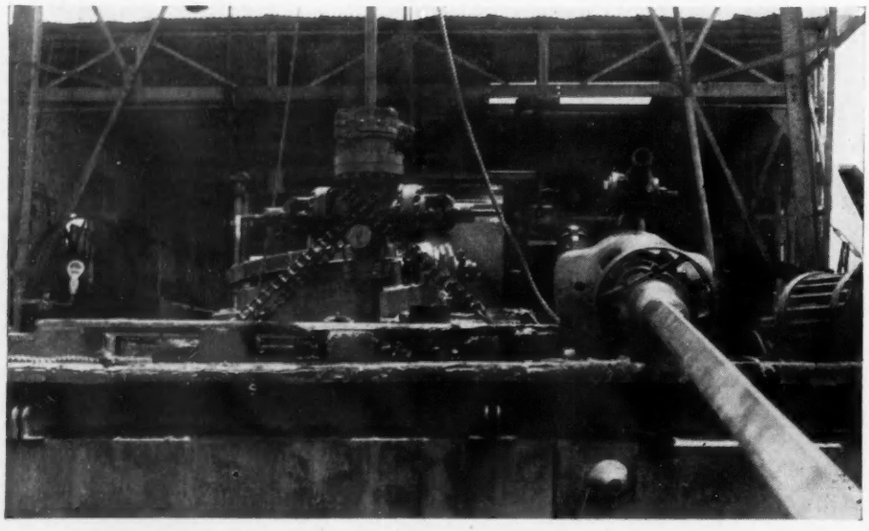
At Quarantine Bay, Plaquemines Parish, Gulf Refining Company's State 4-QQ, Section 17-19s-17e, was coring in shale at 10,220 feet last week after logging broken shows of oil from 10,064 to 10,081 feet. Gulf made location for Orleans Levee Board District A-1 at Quarantine Bay. It is 1430 feet east and 925 feet south of the northwest corner of Section 18-19s-17e.

Amerada Petroleum Corporation and Stanolind Oil & Gas Company abandoned their 13,210-foot test at South Elton, Jefferson Davis Parish. This is the third deepest well in the world. After drilling Calcasieu National Bank 3-B, Section 27-7s-3w, to 13,210 feet the hole was plugged back and a series of tests were made, the last being from 7182 to 7200 feet. It got three barrels of mud and 56 barrels of salt water in 20 minutes through 3/8-inch chokes.

Sixty-seven permits issued in Louisiana

Shreveport, Louisiana. — Sixty-seven drilling permits were authorized last week by the Louisiana Conservation Commission of which 35 were in North Louisiana parishes, divided as follows: Bossier, 1; Caddo, 4; Claiborne, 11 (including 10 for Lisbon); DeSoto, 1; Lincoln, 2 (both for Lisbon); Morehouse, 1; Sabine, 7; Union, 2; and Webster, 6 (all in Cotton Valley).

The 32 in South Louisiana were divided among the following parishes: Acadia, 4; Ascension, 1; Calcasieu, 1; Cameron, 5; East Baton Rouge, 1; Evangeline, 2; Iberia, 2; Jefferson Davis, 2; La Fourche, 3; Orleans, 1; Plaquemines, 1; St. Mary, 3; St. Landry, 1; St. John The Baptist, 1; St. Martin, 1; Terrebonne, 3.



Fohs Oil Company's State 4 at Lake Long, LaFourche Parish, with the Christmas Tree bolted down with a drawworks chain. The well blew out at 10,239 feet in a new sand and after it was killed was carried to 10,473 feet where another new oil sand was found from 10,418 to 10,434 feet.

SOUTH LOUISIANA
Completions

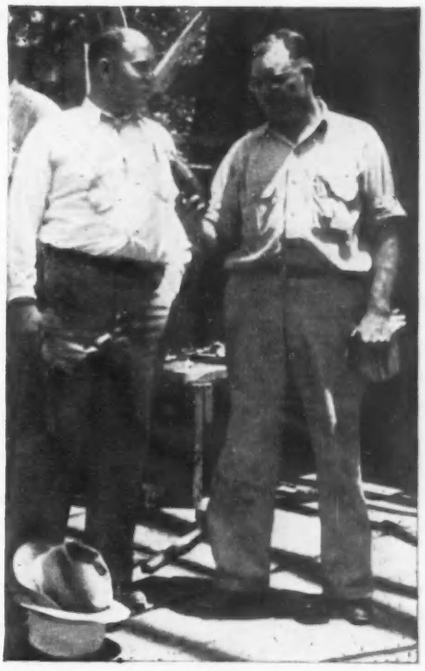
Company, Well and Location	Init. Prod. Bbls.	Depth
Anse La Butte—		
Paul Fly, Moresi Oil Co. 1	100	1143
Charenton—		
Commerce Oil Co., Parro 1, dr to 8000 ft, pb and comp 6695 ft	182	6693
Pan American, Lawes 8	540	2652
Choctaw—		
Louisiana Crusader, Schwing Lbr. Co. 2	664	8261
Jennings—		
Harry Fotiades, Washington and Opelouses 2	1080	6659
Stanolind, Houssiere Latrielle 19	696	7692
North Crowley—		
Humble, Davis 1	*	120
Lafitte—		
Texas Co., Madison Realty Co. 1-B	1756	10,266
South Elton—		
Stanolind-Amerada, Calcasieu National Bank 3-B	*	13,210
Welsh—		
Joe Massart, Mathers 1	*	2320
West Hackberry—		
Sutton Oil Co., Ellender 2	213	3285
Avoyelles Parish—		
G. C. Koch, Kelone 1, Marksville area, 21-2n-3e	*	6021

*Failures; †Junked; ¶Million cu. ft. gas.

North Louisiana Fields

Cotton Valley well has oil production below 8000 feet.

Shongaloo deep test has distillate in Lower Marine.



Stanolind Oil & Gas Company's Pardee 1, at Cotton Valley, completed at 8635 feet in Lower Marine (Bodcaw) to extend producing in that level southeast and to North Louisiana its first oil below the Travis Peak, other 8000-foot wells at Cotton Valley producing gas-distillate. Gravity of this well is 39.5. Above are W. H. Hager, Louisiana Conservation agent in the field, right; and Buddy Knopp, Stanolind district superintendent in North Louisiana and Arkansas, examining a sample of the oil. Below is a view of the well just before final testing.

Shreveport.—North Louisiana's first Lower Marine oil production was found last week in Stanolind Oil & Gas Company's Pardee Company 1, C SW NE 36-21n-10w, Webster Parish, 1¾ miles southeast of gas-distillate production in the Lower Marine in the Cotton Valley field. This well was completed at 8635 feet, flowing 25 barrels of 39.5-gravity crude per hour through 46/64-inch tubing choke with casing pressure 1550 pounds and tubing pressure, zero. Gas production was estimated at 750,000 to 1,000,000 cubic feet daily. The well after being allowed to clean itself was shut in to await additional storage, as nothing except a gas-distillate well had been expected. The oil is of green and yellow color and is sweet, with a heavy paraffin base.

On Thursday, Stanolind Oil Company was rocking the well in an attempt to make it flow through tubing. On a 45-minute flow test through casing with a 2-inch flow line it made 98 barrels of oil and showed estimated 1,000,000 cubic feet of gas. Before being opened for this test tubing pressure stood at 350 pounds and casing pressure, 1630 pounds. It was then closed in for 20 minutes and pressure rose to 480 pounds on tubing and 450 pounds on casing. However, when opened it refused to flow through ⅜-inch tubing choke and gas was applied.

Opening of oil production in the Lower Marine 8000-foot horizon at Cotton Valley will create a new allowable problem for the Louisiana Conservation Commission. At present the Lower Marine in this field is classed as a gas field, despite its distillate yield, and the space rule in effect for this horizon is one well to each 80 acres. Until last autumn a 40-acre rule had been in effect when the three leading operators asked for 160-acre spacing. Land owners sought to retain the 40-acre rule and 80 acres was agreed to by Commissioner William G. Rankin. However, it was made clear that if and when oil was found there in the Lower Marine this rule would likely be changed. For that reason it is regarded as probable that a 40-acre space rule will be placed in effect.

One of the most significant points about the well is that it is producing 570 feet down dip with no evidence of salt water. The fact that it is making oil instead of gas and distillate indicates that the flanks on all sides of the Cotton Valley structure are potentially productive of crude oil in the Lower Marine.

With elevation of 176 feet this test logged Lower Marine (Bodcaw) sand from 8565 to 8606 feet and from 8611 to 8630 feet. Five and one-half inch casing was cemented at 8607 feet. The Lower Marine "C" sand was logged at 8485 feet. On top of the Bodcaw sand which is the "E" sand at Cotton Valley, Pardee 1 was 39 feet lower than Standard Oil Company of Louisiana and A. G. Oliphant's Stewart 1, SE SE 32-21n-10w, southwest Cotton Valley outpost but which although low had produced gas and distillate, as have all other wells so far until now in this horizon.

The new well was Stanolind Oil & Gas Company's first test at Cotton Valley. It is located on a 720-acre lease secured from the Pardee Company of which O. C. Hathaway is district manager.

Finding of oil production on the flanks of this structure in Lower Marine

is expected to add stimulus to such exploration on the flanks of other deep fields in this territory.

Shongaloo Lower Marine

Another Lower Marine gas-distillate field was opened in North Louisiana last week when Magnolia Petroleum Company's Frank Sexton 1, C SW NE 32-23n-9w, Webster Parish, in the old shallow Shongaloo district, was completed after perforating with 40 shots from 8990 to 9010 feet, and the well was brought in gauging 124 barrels of 54.6-gravity white distillate through 2½-inch tubing in first 12 hours. Tubing pressure was 300 pounds, and casing pressure, 625 pounds. Gas with the distillate measured 2,331,000 cubic feet. The well was washed 5 hours before it began to flow.

On a 24-hour gauge ending at 7 a.m. June 8, the well made 260 barrels of distillate and 2,930,000 cubic feet of gas, through 11/32-inch tubing choke with tubing pressure 1625 pounds, and casing pressure 1700 pounds.

Old total depth of this hole was 10,462 feet and 7-inch casing was cemented at 9464 feet where it hung in being run. Operators while drilling had intended to run electrical tester at 8990 feet and abandon. While awaiting arrival of the electrical device they cut another core to 9007 feet which carried a good gas-distillate saturation, so the hole was drilled to 10,462 feet.

NORTH LOUISIANA Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Bossier Parish (Sligo)—		
Triangle Drilling Co., Herold A-3, 13-17n-12w	540	3140
Claiborne Parish (Lisbon)—		
Bevill & Morelock, Kilgore 2, 12-20n-5w	1500	5402
Henry Fotiates, Whitman 1, 2-20n-5w	504	5240
Kilgore-King 2, 11-20n-5w	240	5236
Skelly, Enloe 1, 28-21n-4w	480	5239
Texas-Canadian, Fowler 1, 32-21n-4w	432	5255
De Soto Parish (Logansport)—		
Hunter Co., Parker 1, 26-12n-16w	¶4½	5184
De Soto Parish (Bull Bayou-Naborton)—		
Petroleum H. & P. Co., Matthews 1, 29-12n-11w	*	4003
Morehouse Parish (Monroe)—		
Southern Carbon Co., Miles 5, 35-21n-4e	¶1	2187
Red River Parish (Wildcat)—		
Hutchins et al, Sample 1, 11-14n-11w	¶2	1782
Sabine Parish (Zwolle)—		
Harry N. Morris, Ervine-Bishop 1, 18-7n-12w	45	2495
Sabine Parish (Converse)—		
Kirk-Greenway et al, Whitney Corp. 1, 8-9n-13w (sec. compl.)	*	8929
Lee Whitehurst et al, Frost Lbr. Co. 6, 20-9n-13w	25	2068
Webster Parish (Shongaloo)—		
Magnolia, Sexton 1, 32-23n-9w	279	10,462
Webster Parish (Cotton Valley)—		
Ohio, Bodcaw 3, Acct. 4, 28-21n-10w	450	8280
Gray 24, 35-21n-10w	512	8223
A. G. Oliphant, Banks 3, 34-21n-10w	384	8390
Hunt Oil Co., John Babb 6, 14-21n-10w	360	8505

*Failures; †Junked; ¶Million cu. ft. gas.

ARKANSAS Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Franklin County—		
Ozark Nat. Gas Co., Bryan & Khiling 1, 22-8n-29w	¶2	2600
Miller County (Rodessa)—		
Texas-Canadian, Thomas 3, 12-20-28	10	6155
Union County (Schuler)—		
Lion, Marcus 1, 18-18-17	626	7635

*Failures; †Junked; ¶Million cu. ft. gas.

Arkansas Fields

Village discovery well gets two offsets

El Dorado, Ark.—Offset locations to the west and southwest of Standard Oil Company of Louisiana's W. P. Phillips 1, C SE NW 15-17-19, discovery Permian lime oil well at Village, Columbia County, had been made last week. Fohs Oil Company's W. P. Phillips 1, NW NW SW 15-17-19, was rigging, and Standard had derrick up for Tina Crumpler 1, C SW NW 15-17-19.

The discovery well meanwhile remained choked in to the 200-barrel daily allowable set for that area as well as for Buckner and Magnolia. Standard Pipe Line Company's 8-inch pipe line to take the production of the wells in these three areas will be from Haynesville, Louisiana, to the Magnolia well in Section 14-17-20, a distance of 20 miles, and from this point 4-inch laterals will be layed to Buckner and Village. The line will not touch the Schuler field in Union County.

Standard Oil Company of Louisiana is not expected to do any more than the necessary offsets at either Buckner or Village for the present. It has one test drilling at Buckner, J. P. McKean 2, NW SW 8-16-22, drilling shale at 7011 feet Thursday.

Only one new well was completed last week at Schuler, this being a Jones sand well, Lion Oil Refining Company's Marcus 1, NEc Lot 5, NW 18-18-17, which gauged 626 barrels in 24 hours through choke with casing pressure 750 pounds and tubing pressure, 680 pounds, depth is 7635 feet.

Lion's Mayfield 3, NE W½ Lot 1, NW 18-18-17, at Schuler which logged Jones sand from 7552 to 7643 feet, will be drilled to Permian (Reynolds) lime which now has three producing wells at Schuler.

Plan early test of salt dome in Mississippi

Jackson, Miss.—The California Company is doing final title work on a block of acreage it has under lease in Township 5 north, Range 9 west, Pike County, southwest Mississippi, preparatory to drilling a test on the block which is said to cover what has been identified from geophysical exploration as a salt dome. In the same general area Sun Oil Company and Wanette Oil Company have checker-boarded acreage.

The California Company has a reflection seismograph unit working in north Amite County while Sun Oil Company has a similar unit in the southern part of Covington County and a torsion balance unit working in the same area.

SOUTHEASTERN STATES Completions

MISSISSIPPI

Company, Well and Location	Init. Prod. Bbls.	Depth
Rankin County (Jackson)—		
Wilmut G. & O. Co., Fee 7, 6-5n-2e	¶50	2352

*Failures; †Junked; ¶Million cu. ft. gas.

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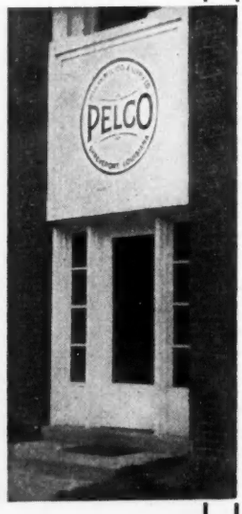

PELICAN WELL TOOL & SUPPLY CO.

SHREVEPORT LOUISIANA

Lake Charles—Houma—Converse
New Iberia—Rodessa—Monroe
Cotton Valley—Greggton
Houston

Eastern States

Kentucky field adds producer and records first failure. Indiana well will deepen in search of better production.

Pittsburgh.—An oil well and a dry hole were added last week to completions in the new Birk City pool of Henderson County, Kentucky. Hoosier Drilling Company's C. T. Blackwell 2 was completed at 1870 feet and was being swabbed at the rate of 500 barrels a day. It is a direct offset to Snowden & McSweeney's Dempewolf 1, completed two weeks ago with about the same initial production. Meanwhile, the same company's C. T. Blackwell 1, the discovery, continued in trouble. The well had just resumed flowing last week after a cave-in May 21 had choked production when a second cave-in 178 feet from the bottom once more stopped production. Cleaning was resumed, after which casing will be carried down. Derricks are up for the C. T. Blackwell Nos. 3 and 4.

Kentucky Natural Gas Company's O. Haynes 1 became the field's first dry hole. A mile southwest of the discovery, it was abandoned at 2100 feet after running through a very small and too tight show at about 1950 feet.

Two tests were preparing to drill into the McClosky, producing horizon. W. E. Hupp et al's J. Gatewood 2, 544 feet from the same operator's J. Gatewood 1 and an offset to Carter Oil Company's O. L. Boswell 1, 500-barrel producer, was to be cored in below 1776 feet, after which pipe was to be cemented. Snowden & McSweeney and Cumberland Petroleum Company's F. Dempewolf (T. Jones) 2, had pipe cemented at 1850 feet and was to be drilled in late in the week. Both tests had been spudded a week ago. Carter Oil Company has started a Dempewolf test offsetting No. 1 by these operators.

J. C. Ellis' K. A. Jones 1, Henderson County, Kentucky, reported a Jett sand oil show after resuming last week following a cave-in at 1150 feet. The test was planned for the McClosky, and it was not immediately learned whether the Jett showing was sufficient for commercial production.

Across the Green River, in Daviess County, Major Oil Company's O. Greer 1, closely watched as a possible indication as to whether the McClosky pool extends east into that County, was delayed by a fishing job at 960 feet. The section of casing was recovered and the well was drilling below 1200 feet at last report. Jesse Ashby's Sapp 1, second of three Daviess County tests, resumed drilling below 100 feet after bolstering the cable rig that sunk into the ground because of quicksand. Globe Oil & Gas Company's A. R. James Estate 1, being drilled by O. Jenkins, also had quicksand trouble and was at about the same depth.

Kentucky Natural Gas Company's R. H. Trigg, Sr., 1, 2 miles south of Croydon, southwestern Henderson County, was below 1040 feet.

Three purchasers of crude in Daviess County, Indiana, during March handled 28,506.98 barrels, according to the report of James W. Martin, commissioner of revenue, filed last week with County Clerk Harry Griffin. Producers Pipe Line Company handled 13,892.70 barrels, Ohio Pipe Line Company 11,593.12 barrels and the Fordsville Gathering Line, Inc., 3,021.16 barrels.

A week's pumping at Sun Oil Company's S. Dietz 1, Section 1-7s-12w, Marrs Township, Posey County, Indiana, drilled by Staves Drilling Company, yielded only 25 to 26 barrels of oil a day and brought a decision to deepen in an attempt to get a better flow. If production is not increased with deeper drilling, the test will be acidized at its present level of 1744 feet. A core taken from Carter Oil Company's C. Graulich 1, Section 4-7s-14w, Black Township, 7 miles east of Mt. Vernon, at 2880 feet was being studied to determine whether the test will be carried deeper.

Columbian Carbon Company was hauling material for the first Oriskany deep sand test for Pleasants County, on the W. & B. Hammett farm, near Henry Camp, 4 miles from St. Marys, northwest West Virginia. This company has been active in developing Oriskany pools in Kanawha and Roane counties.

C. E. Updegraff reported a good gas showing in the Niagara lime at 5000 feet in his Cattaraugus County, New York, wildcat. When carried deeper into the formation, however, it was drowned out by black water. The well will be cased and carried an additional 200 feet in search of the Medina sand. The wildcat is near Scandia, New York.

In Potter County, on the Pennsylvania side of the New York-Pennsylvania deep sand gas area, G. L. Cabot, Inc., obtained a good and unexpected gas flow at 1100 feet. The test was intended for the Oriskany, and is now shut down awaiting orders. The flow was 1,300,000 cubic feet.

Completions gained last week in Ohio and West Virginia, remained constant in Pennsylvania and dropped in Kentucky. Ohio jumped from 9 to 21, the past week's completions including 7 oil wells with an average initial daily production of 8 barrels, 7 gas wells and 7 dry holes. Nine tests were completed in West Virginia, including 2 oil wells with an average of 7½ barrels daily, 6 gas wells and 1 dry hole, compared to 7 the previous week. Pennsylvania's two finished operations were divided between a 5-barrel oil well and a fair gas well. In Kentucky, completions dropped from 19 to 7, including 4 oil wells with an average initial of 24 barrels daily, one gas well and one completion.

EASTERN FIELDS
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
OHIO		
Athens County—		
McCune et al, Dixon 3	5	1210
Coshocton County—		
Upham & Perkins, A. Wolfe 1	*	2966
Wittmer O. & G. Co., Balder 1	*	4100
Knox County—		
Ridgeway Bros. et al, Hobbs	¶2.50	2807
Lawrence County—		
Petree & Newman, Brammer 1	¶.20	2662
Licking County—		
Vandergrift Oil Co., Weigle 6	15	812
Stricker et al, Miller 1	¶.07	790
Hoover Bros., Lahman 2	¶	813
Bebout Bros., Lynn 1	*	650
Lorain County—		
Ohio F. G. Co., Stumphauser 1	¶4.00	2340
Medina County—		
Preston Oil Co., Parent 24	15	317
Meigs County—		
J. Thorne, Stobart 1	*	545
Bengal, Gorsuch 1	*	1096
Morgan County—		
H. H. Schwartz, Boileau 7	1	69
Tuscarawas County—		
Ohio F. G. Co., Breitmeler 1	¶.55	4628
Washington County—		
Depuy Bros., Hendershot 2	8	1390
C. D. Uhl, Huffman 7	8	810
Burkhart et al, Hall 1	¶.10	1620
Knob O. & G. Co., Pryor 8	*	800
Rose et al, Cooper 17	*	940
Wayne County—		
David Shafer, Campbell 1	5	3270
KENTUCKY		
Butler County—		
Hupp et al, Peay 1	*	....
Grayson County—		
Smith et al, Porter 1	¶1.00	367
Henderson County—		
Mecca Oil Co., Wilson 2	25	....
McLean County—		
Matthews & Preston, Howell 4	60	1150
South Penn Oil Co., Nall 2	5	1483
Magoffin County—		
Supple & Co., Saylor 7	5	1122
Ohio County—		
Kentucky Nat. Gas Co. et al, Farmer 1	*	870
WEST VIRGINIA		
Boone County—		
Pure, Williams Coal Co. 285	5	3364
Cabel County—		
R. C. & D. R. Campbell, Holton 1	¶.17	3555
Calhoun County—		
F. F. McIntosh, Marshall 1	¶.02	2185
Gilmer County—		
McCall Drlg. Co., Fling 1	¶.04	....
Kanawha County—		
Columbian Carbon Co., Rayhill 1	¶.68	5050
Lincoln County—		
Kanawha Gas & Util. Co., Adkins 1	¶.10	3661
Putnam County—		
H. Pine, Eggleston 1	¶.07	2365
Ritchie County—		
Schultz Oil Co., Hammett 2	10	1854
Ergactus O. & G. Co., Nangle 1	*	1890
PENNSYLVANIA		
Washington County—		
Beedle & Debone, Arblaster 1	5	2130
Aten et al, Dewitt 1	¶.30	700
INDIANA		
Daviess County—		
W. F. Souers, Helderman 2	¶	598
Hancock County—		
J. H. Snider, Hill 1	¶	952
Knox County—		
National Consumers Oil Co., Winemiller 2	10	760
O. H. Taylor, Summers 1	*	830
Pike County—		
Murphy Oil Co., Stewart 4	10	995
Spencer County—		
C. E. Dice, Ray 3	*	707

*Failures; †Junked; ¶Million cu. ft. gas.

Lease transfer approved

Transfer of 78 acres of oil and gas leases in Doddridge and Monongalia counties, West Virginia, from the Hope Natural Gas Company to the Pittsburgh & West Virginia Gas Company, to be balanced by the transfer of rights to 1115 acres in Lewis County from the latter company to the Hope company, was approved last week by the state public service commission.

North Dakota test is below 8110 feet

Minot, N. D.—Standard Oil Company of California's Nels Kamp 1, deep wildcat on Section 3-154n-96w, Williams County, was drilling in a hard formation below 8110 feet last week after a short shut-down for engine trouble.

Rumors of oil shows have become increasingly frequent in recent weeks, but thus far none have been given confirmation by company officials Manning & Martin are drilling the test, which is on a structure extending north into Canada.

Illinois Developments

Clay County wildcat indicated will pump 800 barrels.

North Olney area prospects revived by two showings.

Olney, Ill.—Kingwood Oil Company's F. Graham 1, wildcat 1½ miles north of Flora, Section 13-3n-6e, Clay County, swabbed at the rate of 700 barrels of oil last week after less than half of a planned 7000-gallon acid treatment had been given, indicating the well would be good for 800 barrels a day on the pump when treatment is completed. While not sufficient to bring the oil to the surface, there is enough gas to agitate the oil and make it a good pumper.

Kingwood Oil Company is making a location north and a little west of the pool opener; Benedum-Trees Oil Company has a 40-acre tract diagonally southeast, and Fred B. Kroger has a large block close by. Other companies holding acreage in the area include The Texas Company, Gulf Refining Company, and Mullendore, Berry & Berry, insuring this Clay County area its share of activity this summer.

The cloud that hung over the north Olney area a week ago was partially lifted last week when two offsets to the good flowing Pyramid Oil Company's University of Chicago (Bird Haven) 1 pool opener cored excellent McClosky sand saturations. Meanwhile that company's University of Chicago 2, two locations northeast, was temporarily shut down at 3137 feet. It may be carried deeper for a test of the St. Louis.

Muhlbach's G. O'Donnell 1, Section 26-4n-10e, cored a porous 9½-foot saturation from 3029 to 3037½ feet. The test, preparing to drill in after setting casing to saturation, is west of the pool opener, while north of it The Texas Company's Zerkle 1, Section 23-4n-10e, had only a foot of porous McClosky between 3046 and 3047 feet. It was taken to 3170 feet and is scheduled for acid in an effort to make it a producer. Second promising north Olney well of the week is Pyramid Oil Company's G. Sly 1, Section 22-4n-10e, which found a 7½-foot porous McClosky saturation. The test is northwest of the pool opener. While results thus far may indicate a west or northwest trend for the new pool, rather than north or northeast, the irregularity of the structure makes determination of the trend premature.

Four other tests are active in the North Olney area, all in the immediate vicinity of University of Chicago 1. The Texas Company's Zerkle 2 was coring at 3150 feet with only a slight showing of saturation thus far, while the same company's Zerkle 3 was drilling below 2700 feet. Sam Raitman's G. O'Donnell 2, Section 26-4n-10e, resumed drilling below surface pipe after a shutdown, and Sylvester et al's A. E. Bunn 1, Section 26-4n-10e, was spudding.

Carter Oil Company acidized W. C. Cox 1, Section 14-4n-5e, Oskaloosa Township, Clay County, in the Devonian formation from 4247 to 4326 feet and was cleaning out. Results of the treatment will determine whether this highly important deep test will be completed at its present depth or carried on to its originally scheduled 5500 feet. It is one of few tests to probe the lower horizons in the basin area.

Of three wildcats on the Clay-Richmond County line, Ohio Oil Company's D. Negley 1, Section 24-4n-8e, Pixley Township, Clay County, was dry to 3200 feet and temporarily abandoned. This test is north of Noble. Two others were nearing the McClosky level. J. V. Wicklund Development Company's W. R. McCauley B-1, Section 7-2n-9e, southwest Decker Township, on the Richland County side, had casing set above the McClosky and was preparing to drill in with cable tools. Mud has delayed completion of this test, but a plank road was laid last week to permit movement of equipment. Eureka Oil Company's H. Siebens 1, Section 35-3n-8e, directly east of the Travis wells in Clay County, was coring for the McClosky at 3000 feet.

The Pure Oil Company was making the first Richland County test of the Weiler Cypress formation with J. O. Coen 16, Section 4-3n-9e, Noble Township, which was dry in the lower McClosky. It was swabbing Cypress lime at 2605 feet, the operation being watched as one which may be followed by other wells when McClosky production drops off.

In Wayne County, Gulf Refining Company's R. Wilson 1, Section 30-1s-5e, Hickory Hill Township, south and west of Orchardville, was coring for the McClosky at 2980 feet. South of Clay and Richland counties, Wayne County has recently furnished the bulk of the wildcat dry holes in that tri-county area.

Leach Bros.' Edwards County test—Albert Lee 1, Section 11-1s-10e, Albion Township—was drilling below 3265 feet with going slow because of continuous caving. Ike Taylor will drill a Shelby County test on the Paul Kull farm, 4½ miles northwest of Shelbyville, for Clint Milan et al. Derrick is up and the wildcat will be carried down to the McClosky.

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ILLINOIS
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Clinton County—		
Sparta Oil Co., Buettner 1	360	1389
Lewis & Bassinger, Becker 1	325	1385
Hack 1	310	1382
John Pugh Drlg. Co., Schnake 1	245	1384
Cunningham et al, Gun 1	163	1381
Kesl & Fox, Storer 4	150	1382
Ryan & Hinds, Pettinger 1	50	1390
Shell, Lippert 1	70	1365
Kraft 1	*	1646
Fayette County—		
Carter, Durbin 1	150	1507
Sam Jarvis, S. Mize 1	148	1645
Jefferson County—		
Hausman et al, B. Meyers 1	*	2306
Marion County—		
C. E. Lange, Brocker 1	450	1385
Hawley et al, Becker 1	150	1385
Richland County—		
American Natural Drlg. Co., Everson 20	20	3064
St. Clair County—		
Ohio, Dyroff 33	175	475

*Failures; †Junked; ¶Million cu. ft. gas.

Michigan Fields

Gladwin County test showing for important extension.

Allegan County tests going deeper into Dundee-Monroe.

Mt. Pleasant, Mich. — Extensions which could add 300 acres and up of acreage to drill in the Bentley district, Gladwin County, were under swab test after showing up to 1200 feet of oil in 5-inch casing from Dundee limestone initially this week.

Ralph LaBlanc's Snellenberger 1, SW SE SW 16-17n-2e, Bentley Township, Gladwin County, ¾-mile northeast of the developed Dundee pool, showed 1200 feet of oil initially at 3559 feet. First 3-day swab tests indicated between 15 and 20 barrel natural recovery. Operators plan to acidize when enough treating oil has been run. Dundee was logged at 3455 feet with first saturation zone at 3539 feet.

Located in a heavily wooded district and in comparatively low land, completion of the test was delayed last week when mosquitoes coming off hatches in thick clouds attacked the drilling crew and forced an 18-hour shut down.

On the west side of the developed Bentley field, Jones & Rose's Miller 1, NE SW SW 20-17n-2e, six locations west of production, showed 700 feet of oil initially at 3552 feet, 102 feet in the lime.

Failing to establish commercial production in the Traverse limestone, chief producing zone in Western Michigan, and only commercial lime so far drilled in Allegan County, two operations this week were being deepened for Dundee-Monroe lime tests. These were Gordon Oil Company's Jamestown Bank 1, Section 17-4n-12w, two miles north of the Dorr pool; and Muskegon Development Company's Fritza 1, Section 33-4n-12w, an offset to a Traverse limestone well.

The Traverse zone ranges between 1400 and 1800 feet in the Allegan district and Dundee (usually found completely eroded out) and Monroe can be tested by deepening from 100 to 300 feet.

James A. McKay's Loveless 1, Section 35-17n-4w, Clare County, which initially flowed 12 barrels daily from the Michigan Stray sand zone, major dry gas producing formation in Michigan, is under test after a 500-gallon acid treatment. Operators reported tubing was plugged with sand shortly after a pump test was attempted. Whether the acid helped or not had not been determined this week.

Two offsets are due to Norton & Kramer's Sharp 1, Section 30-14n-8e, Akron Township, Tuscola County, 38- to 43-barrel pump-flow producer from the Monroe limestone at 3423 feet. So far the well has not been acidized but last week when tubing was pulled and 6 feet of cavings drilled out, the depth of the well was revised from 3418 to 3423 feet. It is producing from Monroe lime horizon, and is first to produce in Tuscola County.

Smith Petroleum Corporation is moving for the west offset and Brehm et al for the north offset.

Central Michigan Chemical Company has announced letting drilling contract to J. C. Arthur's Inc., for a 4500-foot test at the outskirts of the village of St. Louis, Gratiot County. Operators will be equally interested in testing the Monroe and Sylvania limestone sections for brine production possibilities (charging stock for the chemical plant) as for oil possibilities in the same zones.

MICHIGAN
Completions

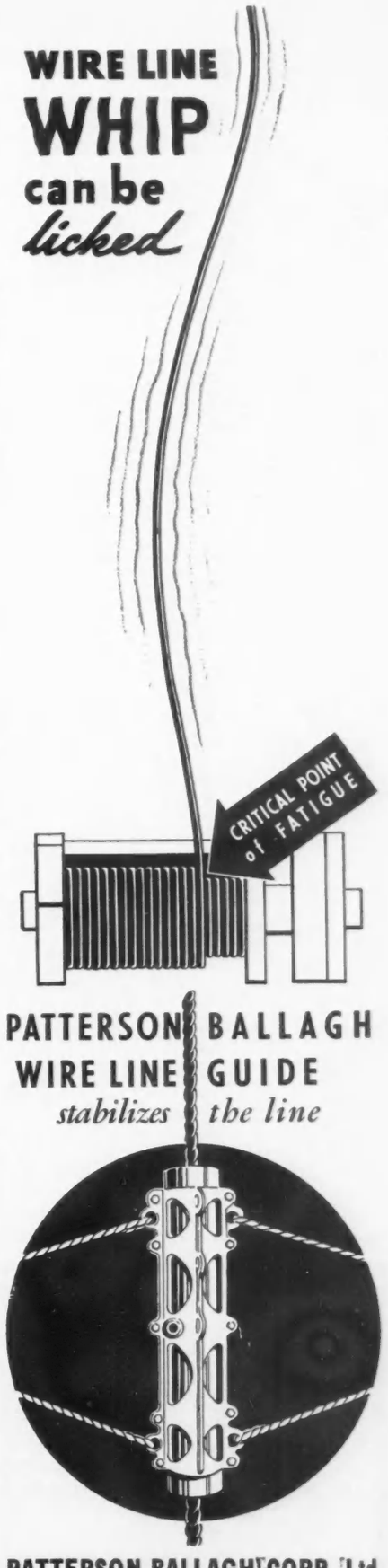
Company, Well and Location	Init. Prod. Bbls.	Depth
Allegan County—		
Hubbel Oil Co., Kage 1, se nw ne 24-1n-14w	*	1589
Gladwin County—		
Rowmor Corp., Foster 2, nw se nw 26-18n-1w	190	3590
Dapar & Rex, Lumber Co. 1, ne ne nw 12-18n-2e	*	3425
Isabella County—		
Pure, Latham 4, nw se se 32-15n-6w	300	3673
Midland County—		
Mammoth P&R Co., Higgins 4, se nw ne 27-16n-1w	290	3789
Rickets 2, se se nw 27-16n-1w	20	3818
Chapman et al, State 3, se sw ne 27-16n-1w	490	3786
Sun, State B3, nw se ne 27-16n-1w	310	3793
Monroe County—		
A. V. Oil Co., Roe 4, se ne nw 30-6s-7e	5	2140
Tuscola County—		
Norton & Kramer, Sharp 1, nw nw nw 30-14n-8e	40	3423
Van Buren County—		
Voorhees Drlg. Co., Drullinger 1, nw ne se 7-3s-16w	*	934

*Failures; †Junked; ¶Million cu. ft. gas.

Lower production rates to be studied

State College, Pa.—In harmony with efforts to curtail production in the Pennsylvania grade crude region, the Bradford District, Pennsylvania Oil Producers' Association, has changed the goal of its research activities at Pennsylvania State College here from increased recovery to one of lower production without reducing the ultimate yield of the field.

Producers of the Bradford region represent more than half the production of Pennsylvania grade crude, and the association has as its goal reduced production of 10,000 barrels a day. The study conducted under the direction of the association, it is hoped, will bring a change or balance of present water flood methods under which maximum recovery can be realized when operations are conducted at full capacity.



IMPORTANT WILDCAT TESTS

ALABAMA

Barbour—H. A. Stebbinger's Town of Lewis 1, sw se 11-9n-25e, lcn. **Choctaw**—Joe Modisett et al's McCorvey 1, se sw sw 20-9n-2w, sd 7520 ft. **Greene**—R. T. Jeffrey et al's R. C. Lett 1, 3-20n-2e, mim (120 ft e Willis & Payne's test). **Mobile**—J. C. Prine's King 2, 1120 ft s and 700 ft w nec 4-1n-4w, elev 134 ft, sd 1160 ft shale. Grand Bayou O&G Co.'s J. A. Stafford 1, sw sw 24-7s-3w, ru and sd.

ARKANSAS

Clay—Canadian American Oil Oil Co.'s Smith 1, c ne nw 9-20-8, elev 375 ft, top Nacatosh 800 ft, sd 1005 ft shale. **Columbia**—J. A. Longino's Baker 1, se nw nw 13-17-20, mim. E. O. Olds' Mary Dennis 1, nw se sw 4-17-21, owdd, td 4513 ft. Fohs Oil Co.'s W. P. Phillips 1, nw nw sw 15-17-19, rur. Standard of La.'s Tina Crumpler 1, nw se 15-17-19, dk. **Hempstead**—Easton, May & Murdock's R. M. LaGrone 1, ne ne 5-12-26, dr 3308 ft. **Johnson**—Ark. La. Gas Co.'s Hudson 2, se nw 14-10-24, mim. **La Fayette**—Standard of La.'s McKean 2, nw sw 8-16-22, base anhydrite 3406 ft, base James lime 3968 ft, dr 6410 ft. **Lonoke**—J. W. Eddington et al's Anderson 1, nw ne 7-4-9, 12-in csg 85 ft, no report. Cabot Drlg. Co.'s Benson 1, (Cabot townsite lcn), trying kill water flow, td 1463 ft. **Miller**—F. F. Earles' General American 1, se sw 20-14-26, sd 1206 ft. **Union**—Joe Modisett et al's Frost Lbr. Co. 1, ne ne 8-18-12, rur.

CALIFORNIA

Los Angeles County: Bellflower—Geo. L. Clayton's Scott 1, 32-3-12, sd 6897 ft. **Castaic**—Royal Land Corp.'s No. 1, 8-4n-17w, dr 705 ft. Shell's Dougherty 1, 9-4n-17w, dr 1706 ft. **La Mirada**—John McKeon & Assoc.'s Carmenita 1, 21-3-11, sd 50 ft. **Lomita**—D & B Oil's No. 1, 30-4-13, running 8⅝-inch csg to cement at 5120 ft, td 5275 ft. **Monterey Park**—Monte Cristo Pet.'s Garvey Ranch 1, 27-1-12, sd 5412 ft. **Newhall**—National Pet.'s No. 1, 27-4-16, sd 2436 ft. Palmluck's No. 1, 23-3-16, rur. **Palos Verdes**—Rolling Hills Pet.'s Weston 1, 27-4-14, sd 4220 ft. **Pico**—British American's Pico 1, 12-2-12, sd 4568 ft. **Redondo**—Clifton Oil's No. 1, 17-4-14, perforations 4700-4720 ft, swabbed, short flow—wet. **San Fernando**—Tide Water's Porter 1, 27-3-16, grading roads. **Whittier**—Geo. W. Langstaff et al's Iliff 1, 8-2-11, rig.

Orange County: Anaheim—Shell's Weisel 1, 16-4-10, dr 5190 ft. **Costa Mesa**—A. V. Oil & Gas Co.'s No. 1, 16-6-10, dr 1351 ft. **Draemer**—Congress Oil's Kraemer 1, 36-3-9, 6⅝-inch standing cemented 3014 ft.

San Bernardino County: Chino—Southern Counties Pet.'s Los Serranos 1, 22-2-8, rig.

Fresno County: Clovis—Central Valley Oil's No. 1, 1-12-20, sd 540 ft. **Coalinga**—Petroleum Securities' Gatchell 2, 18-20-16, sd 6849 ft to test soon. Magnet Oil's Fearon 2, 18-20-15, rur. Universal's Leavitt-Hintze 1, 12-20-15, lcn. J. F. Wilcox's No. 6, 11-20-14, bailing 14 gravity oil 566 ft. **East Colinga**—Pure Oil's S.P.L. Co. 1, 31-18-17, sdtr and redr 8730 ft, td 10,861 ft. **Jacalitos Hills**—Jacalitos Pet.'s No. 1, 14-21-15, sd 5743 ft. Dauphin Development's Boone 1, 30-21-14, redr 2508 ft, td 3780 ft. Dauphin's Boone 2, 30-21-14, foundation. **Panoche Hills**—Panoche Hills' No. 3, 12-14-11, sd 300 ft.

Kern County: Arvin—Petrex's Petrex 1, 32-31-30, dr 4498 ft. Union's Berry 1, 15-31-29, bailing, pumped 60 b/d cutting 98 percent, 6812 ft. **Belridge**—F. E. Abbott's No. 1, 18-27-19, rig. General Pet.'s St. Helens 1, 12-28-20, pumping to sump water and a little oil, td 8683 ft. **Buena Vista Lake**—Ohio's KCL A-8, 32-31-26, coring hard shale, 10,761 ft. **Devil's Den**—Amerada Pet.'s Beer 5, 22-26-19, pb 6975 ft set new whipstock, redr 6999 ft, td 8298 ft. Gibson Oil's Alferitz 3, 14-25-18, dr oil sand with streaks shale 512 ft. Geo. Goodrum's Baron 1, 24-25-18, sd 1210 ft. H. L. F. Oil's No. 1, 25-25-18, sd 88 ft. **Dominion**—Geo. W. Dean's Dean 1, 26-26-28, dr 506 ft. Master Pet.'s Recovery 3, 33-26-28, testing 1600 ft. **Edison**—Ray W. Stevens' No. 1, 22-30-30, rur. Geo. W. Johnston's Brown-Paulette 1, 33-29-30, dr 1074 ft. **Fruitvale**—The Texas Co.'s Camp-West-Lowe 1, 7-29-27, dr 1385 ft. **Grapevine-Wheeler Ridge**—Ohio's Tejon D-3, 28-11-18, abd 2275 ft. The Petrol Corp.'s Reserve-Petrol 33-5, 33-11-19, dr 2001 ft. Richfield's KCL 1, 28-11-20, dr 3183 ft. **Lamont**—Rollo Brinkman's Sexton 1, 11-31-28, grade. **Lerdo**—Standard's KCL 18-1, 29-28-26, dr 8380 ft. **McFarland**—Tide Water's Pond 1, 17-26-25, rur. Shell's KCL 83-35, 35-26-25, dr 6450 ft. C. C. White's No. 1, 9-26-26, dr 1875 ft (formerly Seeco Pet.'s Armstrong 1, abd 1210 ft). **McVan**—Bargol Oil's Claflin 2, 10-27-27, sd 2169 ft. Desert Glow Oil's No. 3, 14-27-27, rig. Framac Oil's Brown 3, 22-27-27, sd 1355 ft. **Mt. Poso-East**—W.P.W. Pet.'s Packard 4, 14-27-28, abd gray sand 1263 ft. **Poso Creek**—Harkness & Laws' Hunt 1, 28-27-27, foundation. Reynolds Oil's No. 1, 30-27-27, sd 2854 ft. **Richgrove**—Dilamar Oil's Quinn 1, 15-25-27, wocs 2834 ft, td 2956 ft. **San Emigdio**—Shell's KCL 1-A4, 26-11-22, dr 9727 ft, circulating oil. **Strand**—Continental's KCL E-1,17-30-26, located water on plug, replugged, td 8287 ft. **Temblor Hills**—Chico Martinez Oil's Holly 1, 1-29-20, plug 1020 ft, running liner, td 1108 ft. Par-Mer Oil's Kendon 1, 36-29-20, abd 900 ft. **Wasco-Semitropic**—Continental's KCL A-3-8, 8-27-24, rur. Continental's Seaboard-Assoc.-KCL C-1, 26-27-24, deepening 10,447 ft. Standard's Mushrush 1, 7-27-24, rig. Standard's KCL 8-B-1, 17-27-24, dr 1584 ft.

Kings County: Dudley Ridge—Falcon Oil's Josephine 2, 24-23-20, dr 5436 ft. **Pyramid Hills**—Pyramid Production's Retherford 1, 27-24-18, sd 3090 ft.

Tulare County: Ducor—Nelson & Davison's Muller 1, 1-24-27, dr 355 ft. **Trico**—Caminol Co.'s A.O.G. 3, 29-24-24, rur to deepen 7555 ft.

Santa Barbara County: Carpinteria—Carpinteria Oil's No. 1, 32-4-25, sd 2337 ft. **Carreaga**—Douglas-Stratton Oil's No. 1, 8-8-33, dr 4779 ft. **Casmalia-Cat Canyon**—Standard's Los Flores L. & O. Co. 1, 27-9-33, redr 5370 ft, r. Southern Calif. Drilling's Houk 1, 9-9-33, bailing 5002 ft. **Coal Oil Point**—South Crude Oil's Permit 191-2, 24-4-29, redr 2565 ft. **Gaviota**—Gaviota Oil's Hollister 1, 35-5n-33w, bailing water 3215 ft. Wilshire's Hollister 1, 35-5-33, dr 4171 ft test wet. **Gato Ridge**—Barnsdall Oil's Tognazzini 3, 9-8-32, dr 748 ft. O. C. Field Gas.' Continental 3, 9-8-32, rig. **Lompoc**—J. E. O'Donnell's Helen 1, 8-7-33, dr 3361 ft. **Los Olivos**—Continental's La Laguna 1, 24-8-31, dr 304 ft. United Western Oil's Bradley 1, 15-7-30, dr 3250 ft. **Orcutt**—Bankline's Silva 1, 7-9-33, dr 5167 ft. Warren Deuel's Garrett 1, 12-9-34, rig.

San Luis Obispo County: Elkhorn—Calif. Prod.'s Job 1, 6-10-24, sd 1565 ft. Western Plains' Bell 1, 7-31-21, redr 2610 ft. **Edna**—Loma Grande's Luis 1, 28-31-13, rig. **Huasna**—Hancock's Scherer-Dickes 1, 30-12-33, preparing to resume, dr 3361 ft.

Ventura County: Moorpark—Darby's A. B. Cohn 1, 7-2-19, rur. **Oxnard**—Walter G. Rowe's L. Johnson 1, 15-1-22, dr 4697 ft. **Ojai**—High Mesa's Butcher 1, 16-4-22, dr 1540 ft. Holly Development's Macrate 1, 27-4-23, grade. St. Louis' Pirie 1, 18-4-22, rigging pump. **Sespe**—Condor's Dorman 1, 6-4-19, co 2195 ft. Continental's Elkins 1, 23-4-19, wet abd 4159 ft. Claran's Hardison 1, 22-4-20, dr 410 ft. Garmack's Orcutt 1, 28-5-19, sd 565 ft. Garmack's Crosby 1, 14-4-19, grade. La Salle & Van Dissen's No. 1, 17-5-19, grade. H. A. McDonald & Eric Craig's No. 1, 5-5-19, lcn. Merchants Pet.'s Cochrane 8, 1-4-20, dr 575 ft. Sespe Pet.'s No. 1, 1-4-20, sd 2650 ft. Speik's Speik 1, 33-5-19, sd 3440 ft. Geo. Terry et al's No. 1, 23-5-20, sd 1340 ft. Williamson's No. 1, 1-4-20, sd 540 ft. **Simi**—Germanina Truccano's No. 1, 5-2-17, sd 1005 ft. **South Mountain**—Clipper Oil's Schieferle 1, 17-3-20, rig. The Texas Co.'s Yale Richardson 5, 13-3-21, dr 5282 ft. **Tar Creek**—Section 20 Oil's No. 1, 20-5n-19w, co 1611 ft. **Timber Canyon**—J. W. Martin's Arnett 1, 15-4-21, dr 1479 ft. Senter & Ahlburg Stallings' Stallings 1, sd 665 ft.

ABBREVIATIONS

The following abbreviations, signs, etc., are used in completions and wildcat reports in THE OIL WEEKLY.

*—*dry hole abandoned well.*
‡—*salt water (completions).*
†—*junked and abandoned.*
¶—*million feet of gas.*
abd—*abandoned.*
bbls—*barrels.*
br—*building rig.*
bs—*basic sediment.*
csg—*casing.*
co—*cleaning out.*
dd—*drilling deeper.*
dk—*derrick.*
dr—*drilling.*
fsg—*fishing.*
ft—*feet*
hfw—*hole full of water.*
in—*inches.*
lcn—*location.*
m—*milling.*
mim—*moving in materials.*
mit—*moving in tools.*
mot—*milling on tools.*
n, s, e, w—*north, south, east, west.*
oih—*oil in hole.*
owdd—*old well drilling deeper.*
owpb—*old well plugging back.*
pb—*plugged back or plugging back.*
r—*reaming.*
rog—*rig on the ground.*
rur—*rigging up rotary tools.*
rust—*rigging up standard tools.*
sd—*shut down.*
sdtr—*sidetracking.*
sg—*show gas.*
si—*shut in.*
so—*show oil.*
so&g—*show oil and gas.*
spd—*spudding.*
sr—*straight reaming.*
sw—*salt water.*
td—*total depth.*
ur—*underreaming.*
wih—*water in the hole.*
wo—*workover.*
wocs—*waiting on cement to set.*
wosr—*waiting on standard rig.*

FLORIDA

Levy—Fla. Oil Discovery Co.'s Sholtz 2, sw sw ne 9-15s-13e, sd 3010 ft shale. **Nassau**—St. Mary's River Oil Corp.'s Hilliard Turpentine Co. 1, nw nw se 19-4n-24e, elev 110 ft, 6⅝ in csg 3935 ft, coring 4306 ft. **Polk**—Edw. A. Hill's Polk County Lbr. Co. 1, nw nw ne 32-25s-25e, dk. **Suwanee**—Wm. G. Blanchard's Lucy Cotton 1, se ne 35-3s-11e, elev 70 ft, sd for heavier rig, 200 ft. J. W. Phillips Oil Explorations' Shilkett 1, nw nw 14-4s-14e, dk.

ILLINOIS

Bond—Huppard et al's Dresser 1, sw se nw, 21-6n-4w, dr 1100 ft. Universal et al's Molden 1, ne ne sw 24-6n-4w, sd 2045 ft. Whitehead et al's Pollan 1, nw se nw 26-6n-2w, sd 3000 ft. **Clark**—Watkins et al's Wise 1, nw nw se 24-1n-3w, spd. Meyers' Brinkerhoff 1, sec 26-13n-13w, dr 100 ft. **Clay**—Kennedy et al's Eisemeier 1, nec se 2-2n-5w, sd 1355 ft. Gordon et al's Cannon 1, c nw se se 32-3n-5e, spd. Kingwood's Graham 1, c s½ sw ne 13-3n-6e, td 2984½ ft to acidize. Eureka Oil's Siebens 1, nw sw ne 35-3n-8e, dr 1800 ft. Carter's Cox 1, ce se se sw 14-4n-5e, ready to wash in, td 4325 ft. Ohio's Negley 1, c w½ nw sw 24-4n-8e, dr 3060 ft. **Christian**—Independent's Warren 1, swc 23-11-1e, dr 1600 ft. **Clinton**—Heldt's Lampin 1, sw se nw 16-1n-2w, sd 1238 ft. Ray et al's Schnitzmeyer 1, el ne ne se 6-1n-1w, dr 1470 ft. Self et al's Dodillet 1, 24-1n-1w, abd 1411 ft. Phelps' Dodillet 1, se nw sw 25-1n-1w, lost hole 723 ft, to skid. **Crawford**—Hastings et al's Athey 1, c n½ ne ne 18-8n-12w, dr 1485 ft. **Dewar**—Leach Bros.' Lee 1, sw ne se 11-1s-10e, dr 3260 ft. **Effingham**—Kingwood et al's McWhorter 1, e½ se nw 15-6n-6e, dr 4875. **Fayette**—Jarvis et al's Yakey 1, se ne se 6-7n-3e, rur. Babcock et al's Rodes 1, c sw nw se 27-8n-3e, rur. Co-

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lumbus Exploration's Fish 1, c nw nw se 33-8n-3e, td 1579 ft, to drill plugs. Whisenant et al's Zanders 1, c sw se nw 36-9n-3e, sd 1585 ft. **Lawrence**—Payne et al's Emerson 1, nw nw sw se 20-4n-11w, dr 680 ft. Kesl et al's Warner 1, c ne ne 28-4n-11w, lcn. **Marion**—Farrel's Kyle 1, sw nw nw 28-4n-4w, lcn. Somers et al's Lancaster 1, se nw nw 16-1n-1e, tst td 1668 ft. Texas' Tate 1, c w½ e½ nw nw 5-1n-2e, rur. R. E. Dalton's Ira Dalton 1, nw se ne 19-1n-3e, sd 800 ft. R. E. Dalton's Clifton 1, ne sw sw 15-1n-4e, dr 2200 ft. Wilson et al's Goesling, c w½ nw se fsg 820 ft. Oil Royalties' Suggs 1, c sw ne nw 11-2n-1e, spd. Dalton Oil's Wesner 1, swc nw 24-2n-1e, spd and sd. Siebel's Roddy 1, sec sw 20-2n-3e, sd 2207 ft. Adams' Hawkins 1, c sw ne 7-3n-1e, rur. Marion Oil's Wilson 1, nec se 18-3n-3e, 6-in set 1885 ft, td 1900 ft. **Monroe**—Sloan et al's Putney 1, swc nw 23-2s-9e, mit. **Montgomery**—Hammer's Jones 1, c nw 22-7n-3w, dr 190 ft. Myers et al's Klekamp 1, sw se 29-8n-5w, sd 885 ft. **Massac**—Kahle et al's Harvick 1, swc 23-14s-3e, sd 2875 ft. **Perry**—Amer. Pet.'s United 1, se ne ne 22-6n-2w, dr 360 ft. **Randolph**—Hunt et al's Smlty 1, nw se sw 11-5s-8e, mir, td 100 ft. Mazda Oil's Meade 1, nec 26-5s-9e, sd 3210 ft. **Richland**—Shamrock's Alvord 1, c sw se ne 33-3n-9e, cellar. **Saline**—Bolton's Beable 1, nwc ne 13-9s-7e, cmd and sd td 2601 ft. Rogers et al's Saylor 1, sec 3-10s-3e, sd 1502 ft. **St. Clair**—Hanks et al's Collins 1, c ne ne se 24-1s-9e, dk. **Wayne**—Bruner et al's Kuyoth 1, nwc 30-2n-8e, owdd, made two heads, td 3017 ft. Wucklund's McCayley 1-B, ne sw nw 7-2n-9e, rust td 2927 ft. **Washington**—Salvage's Reinkenemeyer, sec nw 11-1s-2w, spd. Parshall et al's Harmon 1, se sw sw 22-1s-1w, dr 1800 ft. Gulf's Wilson 1, c el ne ne 30-1s-5e, sd 2825 ft. Kingwood's Webb 1, c e½ sw ne 4-28-2e, mim. Nollem et al's Kelley 1, ne nw ne 25-4s-2e, dr 2880 ft. **Williamson**—Geo. Synd's Scott 1, sw se sw 4-10s-2e, dr 600 ft. Fortune et al's Bonar 1, c w½ sw ne 30-11s-2e, dk.

KANSAS

Barton—Sinclair Prairie's Frederick 1, sw se 16-16-11w, 3336 td, pb 3333 swbd 44 bbls oil and 170 bbls water 6 hrs, pb 3331½ ft. Price et al's Wondra 1, nw ne 10-17-12w, td 3343 ft, Arbuckle lime, pb 3342 ft, 2000 acid, potential 539 bbls, 20 percent water. Amer et al's Seyfert 1, nw sw ne 3-17-13w, sd 2560 ft. Western Kansas' et al's Linsner 1, swc se 3-17-13w, 7-in set 3362½ ft, rust, td 3367 ft. Colonial's Bigson 1, sw se ne 10-18-8w, rig. Crown's Wolfe 1, se sw se 36-19-1w, ur, td 2130 ft. Silverstine et al's Otte 1, se nw 2-19-14w, ru. Champlin's Reeves 1, swc 29-20-14w, abd 3656 ft. Kessler et al's Dirks 1, nwc ne 14-20-16w, cellar. **Butler**—Bennett et al's Glass 1, se sw nw 14-25-3e, abd, td 2782 ft. Steinbushel et al's Fox 1, nw se ne 25-26-3e, 10-in set 1000 ft, dr 1685 ft. Duston's Miley 1, se nw ne 17-27-5e, sd 2008 ft. **Coffey**—Barner et al's Knapp 1, se sw nw 27-22-14e, sd 555 ft. **Cowley**—Heilman's Sawyer 1, se ne ne 10-28-7e, spudded. Palmer's Houser 1, se nw sw 13-30-3e, sd 2930 ft. Smith et al's Wilson 1, se sw nw 9-33-6e, show oil, td 3149 ft. **Ellis**—Cities Service, Hall 1-C, c el 2½ ne 35-11-17w, lcn. **Finney**—Atlantic's Nunn 1, c se ne 27-21-34w, co after shot 4637-53 ft, 4664 td. **Ford**—Sinclair Prairie's Young 1, c sl ne 34-27-21w, coring 5570 td. **Geary**—Midland's Ofeller 1, c nw 6-12-5e, lcn. **Harper**—Hutchinson's Ketchen 1, sw se se 11-35-5e, dr 2350 ft. **Jackson**—Haverback et al's 1 Marble, c ne ne 26-8-14e, dr 2250 ft. **Jewell**—Hollingsworth's Wolfe 1, ne sw se 14-4-8w, abd 100 ft. **Lane**—Phillips' Kees 1, c se se 3-19-30w, 7⅝ in set 2483 ft, dr 2575 ft. **McPherson**—Babcock's Copeman 1, nwc 18-10-2w, dr 100 ft. **Meade**—Barnett et al's Adams 1, nwc sw 22-34-30w, abd 69 ft. **Ness**—Schoeppel et al's Moses 1, c sw nw 10-18-25w, 10-in core 4346-48 ft, td 4353 ft, 7-in set 4345 ft. Jones et al's Page 1, se nw 36-18-28w, sd 3270 ft. **Pratt**—Atlantic's Berg 1, ne nw nw 22-26-14w, abd 4562 ft. Tide Water's Jarboe 1, c n l se 2526-14w, dr 1900 ft. **Reno**—Carey et al's McPheeters 1, ne nw 22-26-8w, abd 4300 ft. **Rice**—Hinkle et al's Wesseler 1, se ne nw 34-18-10w, abd 3260 ft. Marylyn et al's Vincent 1, nw ne 5-21-10w, dr 2800 ft. Boone et al's Schilling 1, nw ne 20-21-12w, cellar. Trott's O'Neal 1, sec 21-25-14e, lcn. **Riley**—Coronado et al's Parks 1, sec 16-10-8e, dr 350 ft. **Russell**—Smith et al's Stielow 1, nwc 32-11-14w, sd 2552 ft. Phillips' Miller 1, c nw sw 29-13-14w, dr 2386 ft. Shield's Anschutz 1, sw se 2-14-13w, dr 2860 ft. Coralena's Hefferman 1, ne se sw 34-14-13w, mit. Aylward's Salboch 1, se ne 31-14-14w, lcn. Twin Drilling's Koetkemeyer 1, swc 12-16-12w, dr 3175 ft. El Dorado Ref.'s Ruby 1, nw ne 1-15-13w, dr 375 ft. Shield's Rogg 1, c e l w- nw, 9-15-13w, mir. Hall's Landon 1, sw se 11-15-14w, dr 2790 ft. Web-Son's Dexter 1, nw se 4-15-15w, dr 2425 ft. Parks et al's Gorham 1, sw nw se 19-15-15w, Arbuckle lime 3347-52 ft, td, 2800 ft oih. **Rooks**—Haun's Grauenhorst 1, sec 7-6-16w, mir. Producers' Ham 1, swc nw 25-7-19w, ur 10-in, td 1410 ft. Graham et al's Fike 1, swc 9-9-17w, dr 3412 ft after shows in K. C. lime. Duwe et al's Sutor 1, swc ne 28-9-19w, dr 3100 ft. Hall's Kruse 1, sec ne 3-10-16w, dr 600 ft. Elwell et al's Bair 1, sec sw 34-10-19w, lcn. **Sedgwick**—National's Trustee 1, sec ne 8-27-2e, dr 450 ft. Hudson et al's Fulton 1, ne se 35-28-1e, ur 7-in 2248 ft. Union et al's Rowell 1, swc 6-29-1e, 6-in set 2843 ft. Crowe et al's Murphy 1, sw se 34-29-1w, rig. **Stafford**—Carlock's Richardson 1, se sw 10-34-11w, dr 3100 ft. Austin's Slade 1, ne nw 35-25-12w, dr 2050 ft. **Sumner**—Hapenney et al's Evers 1, se ne 27-31-2e, woc td 2015 ft. Murphy et al's Tate 1, se nw 31-32-2e, dr 3500 ft. **Woodson**—Cleveland et al's Fidelity 1, se ne 34-25-15e, woc td 1436 ft. Whitticker et al's Bressner 1, water 1497-98 td. Stinbuchel's State 1, nw ne nw 15-26-14e, ru.

SOUTH LOUISIANA

Beauregard—Republic's Lutcher Moore 1, Bancroft, 10-6s-13w, shut in 8091 ft. **Calcasieu**—Sun's Lutcher Moore 1, nw of Starks, 1-8s-13w, coring shale 8925 ft. **Cameron**—Humble's Katherine Hanszen 2, Chalkley, 9-12s-6w, dr shale 4980 ft; same operator's Miami Corp 1-B, Little Cheniere, 7-14s-6w, dr shale 10,825 ft. **Iberia**—Texas Co.'s State 4, Fausse Point, 35-11s-8e, pulling setting at 7935 ft; same operator's Bayless & Jones 1, flank Jefferson Island, 58-12s-5e, using hole for geophysical purposes at 9030 ft; same operator's Vermilion Bay 2-B, Vermilion Bay, 16s-5e, blowing dry gas at 9667 ft. **Jefferson**—J. Szodomaka's Carroll 1, n of New Orleans, 125-12s-11e, dr shale 4255 ft. **Jeff Davis**—Continental's Sturdivant 1, South Roanoke, 36-10s-4w, dr sand 8733 ft, no show. **Lafourche**—Sun's Dibert, Stark & Brown 1, Chacahoula, 7-15s-15e, mim. Texas Co.'s La Terre Co. 1, Golden Meadows, 1-20s-21e, dr broken sand 1912 ft. **Orleans**—W. T. Burton's State 1, Lake Ponchartrain, 10s-13e, dk. **Plaquemines**—Gulf's Grand Prairie Levee District 1-A, Bird Island, 6-20s-19e, dr shale 2624 ft. **St. Bernard**—Gulf's State RR 3, Lake Borgne, 6-12s-15e, dr shale 9100 ft. **St. James**—Continental's Realty Operators 1, Convent, 17-12s-5e, dr water sand 6993 ft. **St. John the Baptist**—Shell's Godchaux Sugar 1, La Place, 97-11s-7e, building csg rack. **St. Martin**—Shell's Jeanerette Lbr. Co. 1, West Lake Verrett, 14-14s-12e, dr sand and shale 8018 ft. Texas Co.'s St. Martin Land 11, Henderson, 21-8s-7e, dr sand and shale 6600 ft; same operator's State 6, Lake Mongoulout, 10-10s-9e, piling. **St. Tammany**—Ozro B. Phillips' Blanche 1, 28-6s-10e, dr shale 2545 ft. **Terrebonne**—Barnsdall's Barrow 1, n of Bourg, 41-17s-18e, mim. Fohs' Buckley 1, Dulac, 77-19s-17e, testing at 13,208 ft; same operator's State 1, La Terre area, 41-19s-19e, dr shale 12,510 ft. Shell's La Terre Land Co. 1, se of Houma, 73-18s-18e, lcn; same operator's Realty Operators C-1, Minor, 10-18s-16e, dr shale 3947 ft. **Vermilion**—Magnolia's Ferguson 1, West Gueydan area, 5-12s-2w, dr shale 9000 ft.

NORTH LOUISIANA

Bienville—DeSoto O&G Co.'s Wm. Ashley 3, c nw se 15-16n-10w, rog. Mrs. B. A. Fleming 1, nw nw 18-16n-9w, mim. Gulf's Goodpine 1, se sw 25-14n-8w, elev 157 ft, massive anhydrite 5303-5420 ft, top lower Marine 9650 ft, dr 10,325 ft, gray shale streaks sand. Producers O&G Co.'s Lockett 1, ne ne 9-15n-10w, 7-in csg 2940 ft, dr 5195 ft black shale, streaks lime. **Bossier**—Lloyd & Sloan's B. A. Sherrill 1, se se 12-19n-12w, swabbed dry 785 ft, arr perf 740-760 ft and test again. **Caddo**—R. E. Allison et al's Ellerbe et al 1, sw nw 27-18n-14w, spd 13⅜ in csg 229 ft, 9⅝ in csg 2048 ft, dr 2946 ft. Oils, Inc.'s A. Cazaux 1, sw sw 16-16n-13w, rur (3500 ft test). **Caldwell**—Oakes et al's Kyles 1, sw ne 18-11n-3e, install heavier rig, td 470 ft. **Catahoula**—G. H. Foster et al's W. S. Peck 1, c s½ 39-10n-8e, sd 620 ft. **Claiborne**—E. T. Oakes et al's Kilgore 1, ne se 28-21n-5w, elev 288 ft, 5¾ in csg 5290 ft, logged saturated lime 5297-5305 ft and 5307-12 ft, hole clean, testing, td 5313 ft. Union Prod. Co. et al's Brownfield 2, c se nw 5-19n-5w, elev 235 ft, 7-in csg 10,559 ft, ur 10,661 ft. Weaver Oil Corp.'s Edmonds 2, sw ne 16-20n-5w, elev 209 ft, base massive anhydrite 4370 ft, top Travis Peak 5600 ft, logged so 5475-83 ft, ran electrical tester, sd 5852 ft. **De Soto**—S. S. Alexander's Stell 1, ne ne 5-12n-16w, elev 245.6 ft, perf csg 5150-5440 ft, flowed est 50 to 60 bbls oil day, hung swab, recovered, acidizing, old td 6002 ft. The Hunter Co.'s Parker 1, se sw 26-12n-16w, elev 243 ft, logged saturated lime 5025-83 ft, cemtd 5-3/16 in csg on bottom at 5184 ft, perf 4950-5030 ft, showed est 5 to 8 mil ft wet gas daily, si, td 5184 ft. S. P. Taylor's Barnhart 1, ne se 20-14n-12w, mim. M. L. Stephens' M. E. Garrett 1, nw ne 10-11n-16w, mim. La. Seaboard's Lawrence 1, sw ne 36-12n-14w, elev 332 ft, tested so 2062 ft, tested dry 2822 ft, arr deepen. G. H. Collins et al's Joyner 1, sw ne 28-11n-12w, woc surf csg. Fuqua & Gay's Frost 1, se se 25-11n-15w, lcn. **Franklin**—Southern Star Pet. Co.'s Grayson 3, sw ne 36-12n-6e, sd 1900 ft. **Grant**—C. L. Thompson et al's Woodward 1, ne sw 10-6n-3w, top Wilcox 2867 ft, dr 4367 ft. C. R. Bowers et al's Harrison 1, ne sw 21-8n-5w, spd. **Madison**—Continental's Singer Mfg. Co. 1, n½ ne nw 3-15n-11e, rur. **Morehouse**—Hunter & Rowe's E. M. Clarke 1, sw ne 10-20n-7e, elev 103 ft, top lime 6218 ft, arr deepen, td 7022 ft. **Natchitoches**—Jos. H. Popkins' Peavy-Wilson 1, nw nw 36-7n-9w, ru and sd. W. T. Ryan et al's Lambert 1, nw ne nw 4-8n-9w, elev 140 ft, top Saratoga chalk 2323 ft, base Annona chalk 2643 ft, Austin chalk 3700-3890 ft, top Blossom 3189

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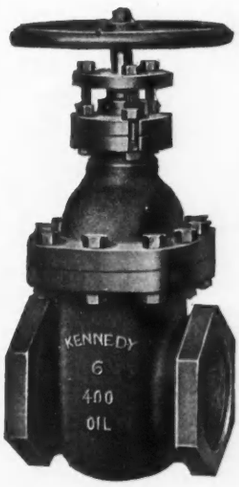

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ft, arr set csg and perf in Blossom, td 4169 ft. Raines Bros.' Allen Plantation 1, ne sw 22-10n-9w, fsg 1250 ft. **Red River**—Glassell & Whitehurst's LeLong 1, ne nw ne 25-12n-11w, sd 3113 ft. R. M. Hutchins et al's Sample 1, se nw nw 11-14n-11w, 7-in csg 1225 ft, completed making 1,900,000 ft gas, td 1782 ft. **Sabine**—W. L. McClanahan et al's Frost-Johnson 1, se ne sw 22-9n-13w, elev 196.2 ft, top Nacatosh 1531 ft, top Saratoga chalk 1578 ft, Annona chalk 1816-2041 ft, showed one joint oil, 14 joints mud 1578-1715 ft, dr 2430 ft, Ozan shale. H. M. Sneed et al's Leone 1, nw se 8-7n-13w, rur. J. G. Sutton-Zwolle Oil Co.'s Bowman-Hicks 1, w½ sw se 14-7n-14w, lcn. Bowman-Hicks 2, w½ sw nw 24-7n-13w, lcn. Albert Reich et al's Glaque 1, ne se ne 27-7n-14w, spd woc surf csg. F. W. Martin & Co.'s Sabine 1, c w½ ne ne 23-7n-14w, 9⅝ in csg 2150 ft, coring 4090 ft. Sabine 2, c e½ ne ne 23-7n-14w, lcn. Lee Whitehurst et al's Bowman-Hicks 1, se se 14-7n-14w, spd. A. Boykin King's Sabine 1, c nw nw 19-7n-13w, rur. Sabine 1-A, c w½ nw nw 19-7n-13w, lcn. Sabine 2, c sw nw 19-7n-13w, lcn. **Tensas**—H. B. Schuhmacher's Mounds Land Co. 4, irreg. sec 39-11n-12e, top Cockfield 1025 ft, tested sw 1025-48 ft, sd 1765 ft. **Union**—Joe Modisett et al's Frost Lbr. Co. 1, ne sw 14-21n-1e, elev 188 ft, top lower Marine 6161 ft, top pink anhydrite 9060 ft, top Permian lime 9612 ft, cutting out hung drill stem, td 9637 ft. Standard's Frost Lbr. Co. 1, c sw sw 13-23n-2w, lcn. **Webster**—Magnolia's Frank Sexton 1, c sw ne 32-23n-9w, elev 225 ft, top first anhydrite stringer 4175 ft, top massive anhydrite 4348 ft, top Travis Peak 5701 ft, 9⅝ in csg 6838 ft, top lower Marine 7605 ft, top Bodcaw (no show) 8032 ft, ran electrical tester, 7-in csg set at 9464 ft, perf csg 8990-9010 ft, making 260 bbls distillate daily 5/6 in choke, 2,770,000 cu ft, old td 10,462 ft. W. M. Chambers' Thomas 1, se se 11-22n-11w, dk.

MISSISSIPPI

Calhoun—L. C. Lucas' B. C. Boland 1, sw sw 9-22n-9e, dk. S. & O. Properties, Inc.'s G. C. Cooner 1, se ne 12-24n-8e, sd 2120 ft (corrected depth). **George**—Cleve Love et al's J. J. Newman Lbr. Co. 2, c sw 9-1s-8w, elev 111 ft, 10-in csg 1374 ft, top Het 1382 ft, arr dd. **Hinds**—Cleve Love et al's Montgomery 1, sw se se 28-6n-4w, lcn. S. F. Johnson 1, ne se 29-6n-1w, elev 343 ft, top black shale 3040 ft, top chalk 3097 ft, top Eutaw 3617 ft, top red beds 3657 ft, 7-in csg 3355 ft, sd 3707 ft. Progressive Realty Co. 1, se sw 35-6n-4w, top Wilcox 2750 ft, dr 4715 ft (Wilcox), shale and sand. **Lamar**—Southern Miss. Pet. Corp.'s Morris 1, nw se 4-2n-14w, elev 332 ft, top Het 1138 ft, 10-in csg 1144 ft, top Vicksburg 1615 ft, top Minden lime 2123 ft, top Wilcox 2735-53 ft, ran electrical tester, td 3029 ft, Wilcox. **Montgomery**—Dr. T. A. Chichester et al's E. C. Mitchell 1, se nw sw 30-20n-7e, dk. **Pontotoc**—Waldrop, Melvin & Waldrop's Bray 1, sec n½ sw 17-11s-1e, woc surf csg 150 ft. **Simpson**—Goodwill O&G Co.'s Berry 1, se sw 33-2n-4e, elev 307 ft, sd rep engine 2600 ft, sandy shale. Cleve Love et al's N. E. Garner 1, sw ne 1-10n-17w, dk and mir. **Yalabousha**—Acme Holding Co.'s Boyle 1, nw nw 33-25n-7e, elev 415 ft, sd 1690 ft shale and pyrites.

MICHIGAN

Allegan—A. M. Henry's Honeysette 1, 27-1n-11w, rig. L. B. Chulski's Tuttle 1, 22-3n-12w, dr 269 ft. **Arenac**—C. W. Teater's Withey 1, 5-19n-6e, dr 2210 ft. **Clare**—S. J. Higelmire's Van Horn 1, 3-18n-6w, dr 1800 ft. Gulf's A. A. Railroad Co. 1, 21-18n-5w, rig. **Clinton**—C. P. McDonald's Koeppen 1, 19-6n-3w, rig. **Huron**—Leonard Prospecting Co.'s Milling 1, 16-16n-15e, dr 200 ft. **Isabella**—Soconoy-Vacuum's Campbell 1, 11-16n-3w, dr 2645 ft. **Mecosta**—Mitchell Oil Co.'s Blodgett 1, 22-13n-10w, dr 3340 ft. Jetter Drilling Co.'s Deakins 1, 28-13n-7w, fsh 3612 ft. **Midland**—Sun's State B1, 9-15n-1w, dr 3100 ft. Franklin Pet. Co.'s Sias 1, 32-15n-2e, Dundee 3690 ft, sd 3781 ft. Daily Crude Oil Co.'s Valentine 1, 15-15n-1e, dr 2560 ft. **Missaukee**—Moser Oil Co.'s Scherenhelm 1, 36-23n-7w, fsg 870 ft. **Osceola**—Champion Dev. Co.'s Ealy 1, 30-20n-8w, rig. Huges and Hansen's Berger 1, 35-17n-10w, dr 2570 ft.

OKLAHOMA

Atoka—Shelton et al, Lee 1, ne nw sw 2-4s-10e, Arbuckle lime 2845 ft, sd 3110 ft. **Carter**—Texas' Cathey 1-B, se ne ne 6-5s-1w, in lime 5685 ft, perf 4905-5665 ft, pb 5477 ft, shot 20 qts, acidized 4000 gals, shot 20 qts 5335 ft to 5370 ft, shot 20 qts 4915-30 ft, co. **Cimarron**—Barnsdall's School Land 1, c nw se 35-5n-5ecm, dr 4955 ft. **Cleveland**—Delaney's et al's Burgher 1, sec sw 12-7n-2w, top second Wilcox 7670 ft, td 7682 ft, flowed 311 oil and 305 water 8 hrs. **Cotton**—Turner et al's Collins 3, sec ne 18-4s-10w, dr 780 ft. **Creek**—Jackson's Berryhill 1, nws 1-18n-10e, dr 2015 ft. **Garfield**—Champlin's Roehm 1, swc ne 4-24n-8w, cellar. I. T. I. O.'s Kichin 1, c se se 17-22n-5w, cellar. **Jefferson**—Stebbins' Bourland 1, swc se 24-7s-4w, abd 4528 ft. **Kay**—Nye's Willin 1, sec sw 24-27n-4e, td 3007 ft, rng 5-in csg. Chevalier et al's Osage 1, nec 33-27n-5e, dr 2565 ft. Helmerich & Payne's School Land 1, sw se sw 16-28n-1w, 7-in set 2801, woc. Shaffer et al's McKee 1, nec sw 20-28n-1w, se 2500 ft td. **Kiowa**—Anderson-Prichard's Johnson 1, 10-7n-20w, fsg 1210 ft; Cribbs, sec ne 28-7n-10w, dr 1400 ft. Estis et al's Drevs 1, c nw 23-7n-20w, mch. Gauntt et al's Parks 1, nwc se 29-7n-20w, dr 990 ft. **Kingfisher**—Hollenbeck's Zerger 1, c se sw 5-18n-6w, spd. **Lincoln**—I. T. I. O.'s Bailey, nwc ne 2-12n-5e, dr 650 ft. Ramsey et al's Parks 1, sec 22-12n-6e, abd td 4754 ft. **Logan**—Sinclair Prairie's Crews 1, swc ne 27-16n-1e, Wilcox sand 5203-15 ft, making oil, to deepen. **Love**—Sinclair Prairie's Peabody 1, nec 11-5s-4e, td 2961, fsg dr pipe. **Marshall**—Hughes' Vittitoe 1, ne se 11-5s-4e, dr 7110 ft. **Murray**—First National's Butterly 1, nec se 22-1n-1e, rur td 100 ft. Gailbreath et al's Wolf 1, c se sw 8-1n-2e, comp 35,000,000 gas td 2522 ft. **Okfuskee**—Burke Greis' Capps 1, sec 7-17n-7e, td 3227 ft, to drill deeper. **Pawnee**—Owens' Riddle, c e½ e½ nw, dr 2510 ft. **Payne**—Texas' Longan 1, c w nw nw 12-17-1e, sd for pipe line, made flow second Wilcox 4874-5001 ft. Kemp et al's Rafferty, sec ne 6-18n-5e, td 3665 ft, to pb. Sinclair Prairie's McQuain 1, ne nw ne, lcn. Hollenback et al's Mathews 1, c sw nw 9-20n-1e, cellar. **Osage**—Wah-Sha-She's Osage 1, nec sw 4-28n-9e, sd 1503 ft. **Pontotoc**—Union Dev.'s 1-A Abbott, sec sw 19-3n-8e, dr 900 ft. Anderson Prichard's Mayer 1, sec sw 19-3n-8e, dr 830 ft. Colma's Brents 1, se ne sw 4-1n-6e, fsg 1575 ft. **Pottawatomie**—Farmers Mutual's Waite 1, nec nw 9-5n-5e, tst td 3224 ft; School Land 1, sec nw 16-5n-5e, cellar. **Seminole**—Indian States et al's Johnson 1, ne se ne 2-6n-5e, dr 1250 ft. Pure's Lack 1, se sw nw 3-6n-5e, td 4116 ft, to pb and acidize. Denver's Mathis 1, sw nw sw 7-6n-6e, dr 3810 ft. Pine's Wright 1-A, sec ne 16-6n-6e, td 3672 ft, pipe collapsed. Smith et al's Coker 1, nw ne ne 25-7n-5e, putting on pump, td 3014, pb 3012 ft. Wood's Cully, swc nw 34-7n-5e, tst td 4275 ft. Villines et al's Reed 1, nec 35-7n-5e, td 3005 ft, shot 20 qts 2991-99 ft, flowed 110 bbls oil. **Washita**—McShirter's Fee 1, nw sw sw 34-8n-19w, fsg td 2147 ft.

EAST TEXAS

Bowie—King Oil Corp.'s Nanny Watts 1 (12-ac), G. Brinbee sur, 4 mi w Texarkana, elev 374 ft, top massive anhydrite 3942 ft, base 3983 ft, top Hill 4193 ft, top Gloyd 4278 ft, top Dees 4451 ft, sd 4574 ft. **Camp**—Wm. C. McGlothlin et al's Joe Venters 1, S. Wright sur, 2½ mi se Leesburg, elev 381 ft, Pecan chalk 2368-2815 ft, Austin chalk 3718-51 ft, top Woodbine series 4124 ft, top Georgetown 4490 ft, dr Paluxy 5110 ft. **Cherokee**—Bunn Drlg. Co. et al's C. Bounds 2 (95.9-ac), W. H. Walters sur, 2½ mi se Lone Star, cem sur pipe. John G. Mayo et al's J. M. Travis 1 (640-ac), Thos. Quevado sur, 2 mi se Mount Selman, elev 456 ft, dr 3150 ft. **Dallas**—Mauldin Oil Co.'s W. E. Howell 1 (107-ac), S. Layton sur, 8 mi e Grapevine, sd 1650 ft. Plaza Oil Co.-W. A. Brooks, Jr.'s B. J. Davidson 1 (75-ac), John D. Merchant sur, base Woodbine 1970 ft, dr 3405 ft. **Ellis**—Julian Ivy et al's Sadie Cerf 1 (152-ac), C. J. Chambers sur, 6 mi e Alma, dry and abd 800 ft. **Gregg**—Humble & Gulf's E. D. Robertson 1 (11.4-ac), M. Mann sur, 4 mi e production, elev 272 ft, top Georgetown 3341 ft, top Paluxy 4541 ft, first Glen Rose 4876 ft, first anhydrite stringer 5617 ft, massive anhydrite 6214-6532 ft, top Travis Peak 7325 ft, top lower Marine between 9600-30 ft, td 10,284 ft, cem 5½ in cas 9868 ft, pb and tested sw in Marine, pb to 8352 ft, testing. **Henderson**—Jones & Mallory's Russom Mallory 1, T. S. Mitchell sur, 6 mi sw Mabank, elev 304 ft, sd 107 ft. L. Johnson et al's Coffee Bros. 1, S. Whitley sur, 5 mi sw Paynes Springs, elev 348 ft, Pecan chalk 1749-1904 ft, Austin chalk 2522-2880 ft, top Woodbine 3442 ft, dry and abd 3495 ft. W. S. McGee et al's Mikel 1 (76½-ac), A. B. Patton sur, dr 2500 ft. D. S. Hager-Jones Drl. Co.'s Coleman-Faulk 1, R. S. Rayburn sur, 3 mi nw LaRue, elev 514 ft, Pecan chalk 2410-2590 ft, Austin chalk 2612-2750 ft, top Woodbine 2891 ft, top Washita 3401 ft, dry and abd 3423 ft. Peyton Bros. et al's W. W. Carter 1 (5-ac), W. K. Newell sur, cem sur cas. Richards & Holloway's Tarkington Bros. 1 (15-ac), W. K. Newell sur, elev 321 ft, top Woodbine series 2998 ft, top sand 3047-61 ft, cem 5-in cas 3045 ft. **Houston**—Humble's Dailey-Taylor 1 (500-ac), J. G. Thompson sur, A-1021, dr 2000 ft. Sun's Dailey 1 (1366.7-ac), J. G. Thompson sur, A-1021, elev 266 ft, Pecan chalk 4226-4490 ft, Austin chalk 5245-5545 ft, top Woodbine series 5777 ft, top sand 5881-93 ft, perforated cas 5888-90 ft, flowed 110 bbls fluid, 25% salt water 21 hrs, via choke, pb to re-perforate; Dailey 2, mim. **Lamar**—Dahl Bros. & Barr's Lewis-McQuistion 1 (10-ac), R. Russell sur, 1 mi ne Paris, dr 1100 ft. **Leon**—Lone Star Gasoline Co.'s G. W. Lee 2, R. Hunter sur, Buffalo area, rig. **Limestone**—Cosden-Kahn, Inc.'s J. J. Bower 1 (15-ac), J. Breeding sur, near Prairie Hill, sd 1010 ft. Peyton Bros. et al's Jake Steubenrauch 1, Mexia field Trinity test, lcn. **Navarro**—J. O. Griffith et al's R. C. Haynes 1 (110-ac), Able Parsons sur, 4 mi ne Kerens, rig. Mrs. Jane Robinson et al's Fortson 1, Eli Smith sur, 5 mi ne Corsicana, elev 345 ft, Austin chalk 1346-1585 ft, top Woodbine 2185 ft, sd 2765 ft. **Rusk**—Merritt et al's J. M. Tipps 1, Thos. Uzzell sur, 5 mi n New Salem, elev 367 ft, Pecan chalk 2911-3260 ft, Austin chalk 3705-3884 ft, top Woodbine 3887 ft, pb fr 3983 to 3923 ft, testing. **Smith**—Hunt et al's S. H. Bradley 1 (100-ac), Thos. P. Payne sur A-763, Chapel Hill area, elev 460 ft, Pecan chalk 2803-3231 ft, Austin chalk 3698-3858 ft, top Woodbine 3927 ft, tbp Georgetown 4400 ft, top Fredericksburg 5360 ft, first anhydrite stringer 6465 ft, top second stringer 6775 ft, massive anhydrite 7015-7259 ft, td 7528 ft, dp froze 3 ft off bottom, then parted at 3881 ft, cemented stem and showing for high pressure gasser. **Red River**—Daniels et al's J. J. Gaston 1 (657½-ac), J. Guest sur, 2 mi s Detroit, elev 468 ft, sp and sd. Texas Trading Co.'s Southern Pine Lumber Co. 2, D. D. Bruton sur, 12 mi n Clarksville, elev 407 ft, top Georgetown 693 ft, top Paluxy red beds 1025 ft, anhydrite 1751-99 ft, td 2154 ft, run cas. Watters et al's J. Phamplin 1, Wm. Moore sur, 3 mi se Kanawha, elev 470 ft, sp and sd. C. E. Whitehead et al's R. H. Ringwald 1 (56-ac), A. Moore sur, 1 mi nw Manchester, sp and sd. **Upshur**—Tom Hunter, American Liberty Oil Co. et al's Dr. Chas. Carter 1 (80-ac), J. H. Fields sur, 1½ mi n Kelsey, elev 428 ft, top Woodbine 3592 ft, top Georgetown 3943 ft, top Paluxy 5590 ft, first anhydrite stringer 5978 ft, massive anhydrite 6520-6756 ft, basal anhydrite 6786-6826 ft, top Pettit 7405 ft, top Travis Peak 7525 ft, dr 9455 ft. **Van Zandt**—Richardson et al's B. C. Dodd 1 (80-ac), T. W. Hutchinson sur, 2 mi s Grand Saline, elev 427 ft, top Navarro 1594 ft, top Nacatoch 1902 ft, dr 4280 ft.

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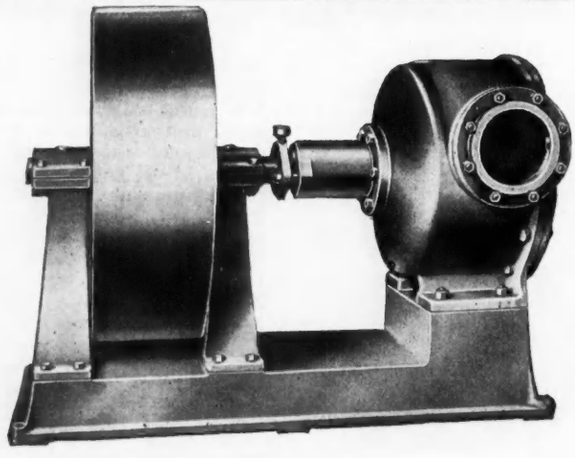

Capacity: 1,050 gallons per minute. Standard 8-inch belt driven.

Southern Engine & Pump Company

HOUSTON, DALLAS AND KILGORE, TEXAS

Richards & Holloway's J. L. Chitty 1 (49½-ac), M. Neal sur, 1½ mi sw Jackson, elev 518 ft, Pecan chalk 2460-2490 ft, Austin chalk 3405-3841 ft, top Woodbine 4320 ft, dry and abd 4556 ft.

EAST TEXAS BORDER COUNTIES

Marion—Tom Bell's Carrie Moseley 1, D. Lane sur, ran electrical tester, arr set csg, td 2524 ft. State Line O&G Co.'s N. W. Burke 1, Ganes Coore sur, aban 2449 ft, arr skid 500 ft for second test. **Panola**—Texas Co.'s Claude Adams 1, Thos. Cox sur, 13⅜ in csg 579 ft, 9⅝ in csg 5940 ft, dr 8062 ft black shale. Walters et al's Phomplin 1, W. Moore sur, woc 12½ in csg 68 ft. Petroleum Heat & Power Co.'s Frost Lbr. Co. 1, Jno. H. Gibson sur, lcn. J. W. Bird 1, Geo. Gallsty sur, lcn. **Sabine**—Petroleum Heat & Power Co.'s Jasper State Bank 1, R. McDonald sur, dr 2348 ft sandy shale. **Shelby**—C. L. Cope's Pickering Lbr. Co. 1, English sur, rur. Vaughn Prod. Co.'s Pickering Lbr. Co. 1, Brooks sur, mim. Shelby Oil Co.'s Windham 1, A. K. English sur, cored saturation 3397-3422 ft, treated with 1500 gallons acid, swabbing, td 3422 ft. J. C. Windham 1, nwc Shelbyville townsite, lcn. A. R. Blount's Ethel Lovett 1, block 55, Shelbyville townsite, lcn. Mallard & Locke's (formerly DeArman & Mallard) W. E. Roller 1, J. Sullins sur, dr 3625 ft. Redditt & Gray's Pickering Lbr. Co. 2, sec 237.8-ac tract, P. J. Loggins sur, spd, dr 500 ft.

WEST TEXAS

(This report confined to south and east portions of the Permian basin and the Delaware basin).

Brewster—G. H. Storey et al's J. P. Wilson 1, c se nw T.&S. L. sec 3, blk 212, elev 3609 ft, sd 2545 ft. H. D. Wilcox et al's W. H. Kokernot 1, nw sw sec 12, blk C, J. V. Massey sur, sd 1871 ft. **Coke**—Barnett Pet. Corp.'s J. E. Mims 1, sec T&P sec 39, blk W, elev 2352 ft, sd 1861 ft. H. E. Ogden et al's E. C. Rawlings 1, swc H&TC sec 391, blk 1-A, dr 3495 ft. **Crane**—Gulf's M. B. McKnight 4, c ne se PSL sec 3, blk B-21, elev 2701 ft, dr 3625 ft; W. N. Waddell et al 8, c nw ne PSL sec 4, blk B-27, elev 2561 ft, top Simpson 5843 ft, coring 5933 ft. Humble et al's J. B. Tubb-Sun 1-B, nwc PSL sec 19, blk 32, elev 2558 ft, used 5000 gals acid, 3-stage, flowed 149 bbls initial ¼-inch choke, td 4430 ft. Magnolia's University 1-16, nwc sec 16, blk 30, elev 2634 ft, top anhydrite 1205 ft, top Yates 2225 ft, top gray lime 3075 ft, pb fr w at 3645-72 ft to 3335 ft, shot 200 qts 3264-3325 ft pumped 52 bbls 32° oil initial, actual 14 bbls; University 1-15, swc sec 15, blk 30, set 13-in 432 ft. **Crockett**—H. W. Black-Eubank Oil Co.'s University-Humble 1, sw sw nw sec 13, blk 14, elev 2321 ft, top lime 1331 ft, pb fr 1475 to 1420 ft, shot 120 qts 1330-70 ft, flowed 8 bbls oil per hr initial. W. L. Bradley et al's A. C. Hoover 1, sw sw nw GC&SF sec 1, blk 1, elev 2249 ft, top lime 1560 ft, pb fr 2173 to 1440 ft, shot 110 qts 1417-36 ft, flowed 15 bbls initial. L. H. Choate-F. T. Hogan's University-Humble 1-H, near nw ne nw sec 14, block 14, shot 160 qts nitro 1373-1425 ft, testing. J. T. Petty et al's Hoover 1, sec GC&SF sec 11, blk 1, sp and sd. Short & Gillette's J. W. Owens 1, Jose Zunegas sur 7, dr 655 ft. Simpson & White's Hoover 1, nw ne ne sec 1, blk FF, sd 601 ft. W. E. Yates et al's Hoover 1, nec GC&SF sec 6, blk 1, lcn abd. **Culberson**—L. G. Sheddan et al's S. J. Isaacs 1, center PSL sec 25, blk 52, sp and sd. Harry J. W. Nieuhaus et al's C. M. Caldwell 1, se nw PSL sec 15, blk 109, elev 3878 ft, top Delaware lime 1165 ft, top sand 1215 ft, sd 2500 ft. J. E. Fitz-Patrick et al (was Quito Oil Corp.'s) Wm. Cameron & Co. 1, c nw nw PSL sec 24, blk 81, dr 470 ft. **Jeff Davis**—H. F. Wilcox O&G Co.'s Jones-Coffield 1, nec H&TC sec 121, blk 4, elev 4537 ft, show oil 3701-02 ft, lowering pipe. **Ector**—Lou G. Stogner et al's T. G. Hendrick-Humble 1, near se ne nw T&P sec 4, blk 43, T-2-S, elev 3010 ft, top anhydrite 1637 ft, top Yates 2762 ft, dr 3500 ft. Sinclair Prairie et al's P. Moss 1-A, nw nw se T&P sec 40, blk 44, T-2-S, elev 3089 ft, salt 1568-2525 ft, top Yates 2650 ft, pb fr 4265 to 4120 ft, est. 20 bbls pumper. **El Paso**—Tri-State Oil Co.'s Kinkel Bros. 1, nec sec 237, S. F. 7232, elev 3977 ft, test water shut-off, td 3571 ft. **Fisher**—Sam & D. Daube & Forest Dev. Corp.'s A. C. Bennett 1, c ne ne H&TC sec 51, blk 2, dr 3310 ft. Dibrell and Patton's J. B. Stribling 1, c se se H&TC sec 110, blk 3, sp and sd. Owens-Snebold Oil Corp.-A. C. Varner's J. H. Milsap 1, swc w½ ne H&TC sec 61, blk 1, sd 525 ft. **Glasscock**—O. B. Greathouse et al's R. K. Burns 1, se se nw W&NW sec 184, blk 29, sd 180 ft. **Tom Green**—Southern Cross Oil Co.'s J. W. Wilson-Upton 1, c nw AB&M sec 30, blk A, lcn. Spinner Oil Co.'s B. Reed 1, sub-div 39, Mayson-Perry sur, fsh 4495 ft. M. R. Stuard et al's Frank Garlitz 1, J. H. Mueller sur No. 2201, Certf. No. 760, sd 785 ft. **Howard**—H. N. Harris, Ward Powell et al's Guitar 1, c ne sec 17, blk A, Bauer-Cockrell sur, lcn abd. S. S. Owens et al's D. S. Wright 1, nw se se T&P sec 33, blk 33, T-3-N, dr 715 ft. T. G. Shaw Oil Corp.'s H. N. Wilkinson 1, ne ne se sec 35, blk "A", Bauer-Cockrell sur, lcn. **Hudspeth**—Haymon Krupp Oil & Land Co.'s K. S. Briggs 1, nwc T&P sec 24, blk 73, Tsp. 7, elev 4016 ft, sho gas 4135-4212 ft, run tubing to test; S. J. Thaxton 1, near sec ne se T&P sec 34, blk 74, Tsp. 6, sd for cas 4501 ft.

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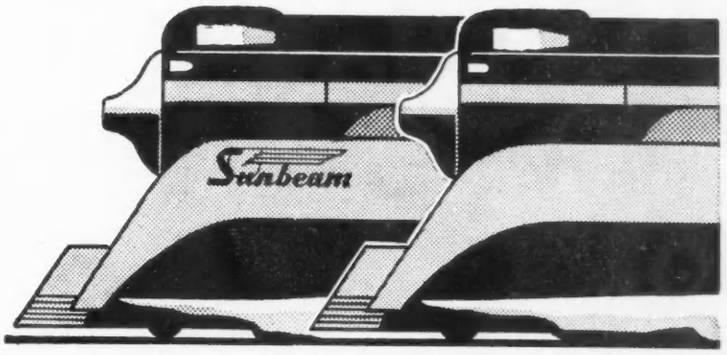

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Are you doing anything to prevent WAR?

WRITE FOR INFORMATION

Loving—Argo Oil Corp.'s T. P. Land Trust 1, se se sw T&P sec 55, Tsp. 1, dr 1930 ft. Shell's T. P. Land Trust 1, sw se se T&P sec 17, blk 55, Tsp. 1, sd 3060 ft. **Menard**—Lee Pet. Corp.-C. D. Hagerty's Jas. Callan, Jr. 1, swc e½ of J. M. Franz sur, sec 36, elev 2026 ft, dr 880 ft. Hartzell-Nawn & O'Hara Synd.'s Wilhelm 1, sec se sec 24, Indianola Ry. sur, A-1795, sd 655 ft. **Nolan**—Frank Oyster et al (was C. E. Hyde-Marland's) E. H. Withers 1, c sw T&P sec 65, blk 21, rig. **Pecos**—Cardinal Oil Co.'s White-Baker 1-B-45, sw sw ne T. C. sec 45, blk Z, shot 50 qts nitro 1721-31 ft, co 900 ft oih. Cox & Moore's White-Baker 1, c sw se T. C. sec 43, blk Z, sd 407 ft. Leidecker et al's Iowa Realty Trust 1, H&GN sec 73, blk 10, elev 2433 ft, top anhydrite 616 ft, dry and abd 2095 ft. Magnolia & Tex-Mex Pet. Corp.'s J. H. McKee 1-a, near nw nw sw H&GN sec 24, blk 9, (jkd. twice), elev 2385 ft, top Simpson 4775 ft, top Ellenberger 6102 ft, dr lime 6169 ft. E. R. Minshall et al's Haynie 1, sw sw nw T.&St.L. sec 28, blk 146, elev 3132 ft, dr 1730 ft. H. H. Sides et al's Blackstone-Slaughter 1-a, near sec T.&St.L. sec 25, blk 130, dr 905 ft. Trans-Pecos Oil Co.'s F. M. Gallaher 1, ne ne nw T&P sec 9, blk 51, Tsp. 10, sd 2240 ft; Popham Land & Cattle Co. 1-B, s½ GH&SA sec 235, blk 11 (3rd hole), sd 2240 ft. **Presidio**—Brite Production Co.'s L. C. Brite 1, ne¼ GH&SA sec 113, blk 12, sd 5427 ft. **Reeves**—Grisham-Hunter Corp.'s Geo. Daniel 1, c ne T&P sec 40, blk 58, Tsp. 6, elev 3360 ft, trace oil 3570-80 ft, dr Delaware lime 4295 ft. Ohio Oil Co.'s Popham Land & Cattle 1, nw T&P sec 18, blk 54, Tsp. 10, elev 3623 ft, co 2380 ft. **Runnels**—J. W. McLean et al's E. H. Pflueger 1, Asa Clark sur, A-506, sd 1240 ft. F. G. Beaudoin & Rex Cannon's H. Giesecke 1, blk 130, Jas. Hughes sur No. 227, dr 455 ft. Homer Price-A. E. Koener et al's J. C. Beddo 1, sub-div No. 51, D. Diaz sur, elev 1700 ft, show 40 degrees oil 3498-3512 ft, td 3603 ft, ur to cem cas. **Schleicher**—John M. Cooper et al's Bert Page 2, c ne sw GH&SA sec 40, blk L, elev 2289 ft, sd 5004 ft. H. P. Opp et al's J. T. Jackson 1, nw ne T. C. sec 41, blk LL, rust. **Scurry**—H. H. Coffield & Guthrie, Inc.'s E. E. Spears 1, nw nw sw H&TC sec 130, blk 97, elev 2294 ft, top lime 1512 ft, fsh 1612 ft. P. G. Moran et al's F. W. Hardee 1, nwc H&TC sec 99, blk 97, co 990 ft. **Sterling**—Loffland Bros. Co.-Moore Bros. Corp.'s D. D. Parramore 1, sw sw se H&TC sec 23, blk 2, dr 2495 ft. John W. Sward et al's T. G. Brennand 1, se se ne H&TC sec 107, blk 2, elev 2535 ft, top anhydrite 918 ft, top Yates 1028 ft, dr 1685 ft. W. F. W. Oil Co. & Cannon Bros.' R. W. Foster 1, near c ne¼ S. P. Sec. 9, blk 13, machine. **Stonewall**—Bert Fields et al's R. P. Pierson 1, c 80-ac lse, E. A. & S. M. Lee sur, A-817, dr 300 ft. Gen'l Crude Oil Co.'s J. D. Smith 1, sec H&TC sec 371, blk 2, 13 mi n Rotan, elev 1958 ft, base red beds 2115 ft, top Dothan 3530 ft, top Noodle Creek 3640 ft, top Saddle Creek 3813 ft, dr 4390 ft; Jones 1, nwc sec 2, Austin-Williams sur, mim. A. G. Swanson & F. B. Parriott's H. T. Carlisle 1, sw se sw H&TC sec 293, blk D, elev 2806 ft, top Noodle Creek lime 3350 ft, dr 4475 ft. **Ward**—J. E. Fitz-Patrick, Frank T. Pickrell et al's H. B. Carr 1, c w½ n¼ H&TC sec 125, blk 34, elev 2645 ft, top Rustler 705 ft, rust, td 1320 ft; F. I. Dyer 1, w¼ n¼ H&TC sec 135, blk 34, Delaware test, elev 2709 ft, top Rustler 695 ft, base salt 4845 ft, top Delaware lime 5081 ft, sd 5085 ft. Magnolia's Geo. Sealy 4-46, nw ne ne sec 46, blk F, top lime 2625 ft, shot 260 qts 2740-2840 ft, td 2855 ft, testing. Texas Co.'s University 1-F, nwc sec 15, blk 16, elev 2619 ft, dry and abd in sul w 2872-3094 ft.

SOUTH TEXAS

LAREDO DISTRICT

Duval—Arkansas Fuels Cuellar 1, sec 96, td 5509 ft, 7 inch cas at 5105 ft, Pettus sand 5110-36 ft, testing. Costa's Palacious 1, sur 3, dr 2435 ft. Dudley Fitzsimmon's Fitzsimmons 1, sec 293, lcn. Haynes & Connor's Fitzsimmons 1, sec 293, lcn. McBride's Murphy 1, sec 120, set sur cas. Standard of Texas' Garcia 1, sh 4, dr 1015 ft. **Jim Hogg**—Humble's Bass 1, San Rafael gr, cor 5582 ft. **La Salle**—Hall and Johnson's Pugh 1, Garrett sur, 93, standing 50 ft. Garner's Yeager 1, sur 39, cor 1412, sd 1022-1039 ft, fossil and sh., gas odor, sd 1157-1163 ft, lost recovery, sd 1395-1412, strong gas tried to blow out. **McMullen**—Alaska-Tex's Messer 1, sec 33, drilling 1050, oil show 980-90. Duncan' Nueces 1, sur 119, waiting on rig. Red Bank's Nueces 1, sur 9, lcn. **Starr**—Borah's Garcia 1, por 71, waiting on new rig. Hall's Guerra 1, por 69, lcn. Republic Natural Gas' Mendiza 1, sec 302, dr 1035 ft. Sun's McKinney 1, sur 242, still lcn; Young 1, por 79, tested salt water through perforations 1840-44 ft, squeezed. Wheelock & Collins' Guerra 1-A, sh 20, dr 5330 ft. Zimmerman's Starr County 1, por 89, moving in. **Webb**—Bolling's Frost Bank 1, sec 596, dr 100 ft. Houser et al's Garcia-Villareal 1, sec 720, loc. Killam's Cuellar 1, sh 2, dr 1045 ft. Sawyer's Garcia & Villareal, 1, sec 720, shut down 2480 ft.

SAN ANTONIO DISTRICT

Atascosa—Altgelt's Vanegas 1, F. De La Garza, dr 1600 ft. Richardson's Fisher 1, block 146, A. B. and M. sur, dr 765 ft. **Bastrop**—Belcher's Roemer 1, Eliza Harris sur, spudded. Franklin's Thaxton & Yarrington 2, J. M. Bangs sur, drilling 985 ft. Ogden and Riddle's Riddle 1, 139 ac tr Henry Warnell sur, dr 1750 ft. Riddle's Callahan 1, Andrew Mayes League No. 19, lcn. **Bexar**—Adams and Bassett's Stumberg 1, Stephen Jett sur, dr hard rock 60 ft. Ball and DuBose's Miller 1, running 5½ inch cas 1369 ft. Fain, Harrison and Jenkins' Hansen 1, John Christopher sur 55, dk, waiting on rig. Namie's Fields 1, Alejo Bustillos sur, moving in rotary to drill deeper. **Caldwell**—Banks Miller's Martindale

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1, sur 18, dr 2930 ft. McNeill's Wattinger 1, Gidson Pace sur, dr 1475 ft. **Gonzales**—Heard, Hall & Young's Walker 1, Hargis sur, lcn. **Guadalupe**—Clark and Weinert's Anderson 2, Green DeWitt sur 11, dr 950 ft. Martin's Gonzales 1, Densen sur, lcn. Seidemann and Pfaunstell's Tasto 1, Thompson sur, topped Austin chalk 215 ft, oil show 215-315 ft, td 315 ft. Struthers' Moursund 1, Cadena sur 254, set sur cas 50 ft. **Kendall**—Dorsey's Flannagan 1, J. Sweeney, Jr. sur, spudded. **Kerr**—Starkey's Saul 1, sur 47, dr 100 ft. **Kimble**—Platou's Anderson 1, sec 43, dr 1770. Dawson's Wilkinson 1, sur 23, lcn. **Maverick**—Wellington's Chittim A-1, sec 156, I&GN RR. sur, cleaning and flowing wash water, thin acid and gas, td 5891 ft. **Medina**—Cromwell's Tondrie 1, Rogers sur, fishing, cas parted, td 945 ft. Gaston and Brown's Sanne 1, A. C. and H. sur 105, fishing, td 903 ft. McCallum, Forber and Johnson's Riff 1, Kempf sur 325, moving in. Tarver's Conrad 1, sur 469, waiting on new rig. Pepper and Taylor's Saathoff 1, sur 231, dr 510 ft. Pulliam and Yost Zuberbueler 1, sur 391, dr 710 ft. Schweers' Schmidt 1, sur 273, dr 665 ft. Walker's Riff 1, sur 42, td 616 ft, prep to dr deeper with cable tools, topped Serp 570 ft, set 5½ inch cas 590 ft. **Milam**—Morgan's Johnson 1, J. J. Acosta sur, dr 1680 ft. Tuxedo's Graves 1, Robertson sur, set cas, waiting on cement, td 1172 ft. Western Gulf's Battle 1, J. Leal sur, moving in. **Williamson**—Ripps' Gustafson 1, W. Donoho sur, lcn.

CORPUS CHRISTI DISTRICT

Brooks—Atlantic's Mestina 1, Esmeralda sur, dr 150 ft. Standard of Texas' Garcia 1, Chapa sur, La Encantada gr, moving in rig. **Hidalgo**—Harding and Pantan's Woody 1, por 69, set 16 inch conductor pipe, waiting on cement. Johnson's Daskam 1, por 45, preparing to drill deeper at 3696 ft. Phillips' Flores 1, por 39, moving in materials. Smith's Fairbanks and Young 1, por 46, prep to drill deeper 2520 ft. **Jackson**—Humble's Davis 1, I&GN sur 20, dr 2425 ft. Magnolia's West 2, Ramon Musquiz gr, dr 6510 ft. **Jim Wells**—Bennett's Perkins 1, La Vaca gr, moving in. Callaway and Matthew's Cook 1, La Vaca gr, washed to btm, dr 4210 ft. Humble's Tarrant 1, J. Poitevent sur 205, coring 5435 ft. Magnolia's Valades 1, La Anima Solo gr, coring 4905 ft. Southern Minerals' Trussell 1, La Vaca gr, shut down for larger rig. **Kleberg**—Pure's State 1, submerged tr 522, dr 2500 ft. **Live Oak**—Chew's Cartwright 1, dr 1225 ft. Fant City's Alamo Lbr. 1, Rafael Alcanta sur 339, dr 625 ft. Feltner's Reed 1, I&GN sur 15, lcn. **Nueces**—Aransas Harbor's Fee 1, secs 651 and 652, lcn. Coastline's State 1, submerged tr 320, ran Schlumberger, td 8900 ft. Southern Minerals' Yakey 1, sec 38, Benton Pasture sub, coring 5440 ft. Union Producing's Simmonds 2, Agua Dulce gr, dk. **Refugio**—Allen's Rooke 1, Jose Miguel and Jose Miria Aldrete gr, coring 4335 ft. **San Patricio**—Atlantic's Jones 1, George H. Pauls sub of Coleman-Fulton Pasture Co. Lands, coring 5625 ft. **Willacy**—Sal Vieja's Garcia 2, San Juan De Carricitos gr, dr 9810 ft.

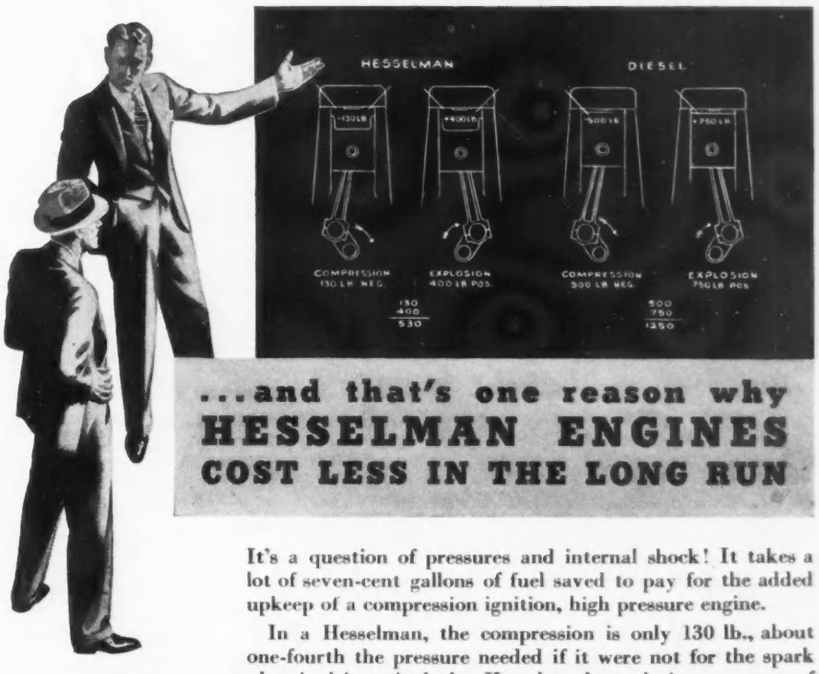
TEXAS GULF COAST

Ft. Bend—Strake's Dew 1, Sugarland, D. Bright sur, sd 6066 ft; same oprator's Sugarland Industries 2, W. Stafford sur, plugging back from 5688 ft. Sam E. Wilson's Wood 1, Fresno area, preparing to spud. **Galveston**—Sun's Atkins 1, Bolivar, B. Frank sur, sd 7135 ft; same operator's Cade 1, Bolivar, A. Dickson sur, sd 8094 ft. **Harris**—Jack Frazier's Houston Deepwater Land Co. 1, Deer Park, T. Earle, abn 6900 ft. Merit's Smith 1, Crosby, F. Rankin, coring shale 7645 ft. **Jasper**—J. G. Mayo's Cartwright 1, Lagrande-Magnolia Springs, Legrande sur, ru. **Madison**—Scarborough and White's Cannon Heirs 1, nw of Madisonville, D. Arriola, dr shale 650 ft. **Matagorda**—J. K. Dorrance's Adamick 1, Blessing, I&GN blk 7, dr shale 8226 ft. Sun's Robbins 1, n of Citrus Grove, C. H. Vandeveer sur, squeezing cement at 9275 ft. **Montgomery**—J. Smith et al's Scott 1, Dacus, F. A. Wheler sur, woc 384 ft. **Trinity**—Boone and Jorden's Crouch 1, n of Trinity, J. Clapp sur, abn 2640 ft. **Tyler**—Glenn H. McCarthy's McShane 1, s of Spurger, BBB&C No. 13, dr shale 8134 ft. **Waller**—David B. McDaniel's Dinkins 1, L. Pearsall sur, dr sh 5814 ft.

Barbacoas field hearing June 13

A hearing on the Barbacoas field, Starr County, has been set for June 13 at Austin by the Texas Railroad Commission. Davis-Eastern Oil Company has recently completed a well in Porcion 89, Survey No. 956, Starr County, and it is possible that this well is producing from the same sand that produces in Barbacoas.

The commission will attempt to determine whether the fields are connected and to fix proper operating rules for the wells drilled around the new discovery.



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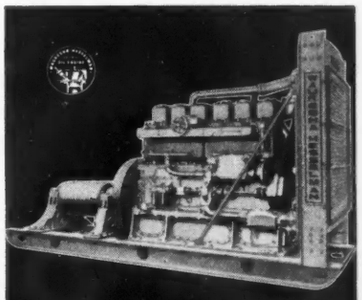
In a Hesselman, the compression is only 130 lb., about one-fourth the pressure needed if it were not for the spark plug ignition. And the Hesselman's explosion pressure of 400 lb. is *not even as high as the compression pressure in a Diesel.*



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In a Diesel the total instantaneous reversal stress at top dead center — the torsional whip crack—in the crankshaft is as high as 1250 lb. *... more than twice that of the Hesselman's 530 lb.* Just picture the timing gears as the lash of such a whip.

Because this high reversal stress comes with great suddenness, Diesel crankshafts must be much heavier to withstand torsional fatigue; bearings must be larger to withstand the pressures; gears must be stronger to prevent breakage. Besides, the heavy flywheels that smooth out these torque reversals impose further torsional strain upon the crankshaft, add to inertia, and ruin acceleration.

Hesselman Engines have none of the Diesel's high pressure disadvantages. They use positively timed electric ignition; they start in any weather promptly and easily; they cost little to maintain; they burn standard diesel fuels; they perform with the snap and ginger of a good gasoline engine. *Write for Bulletin 1011 — a simple explanation of all Hesselman advantages.*

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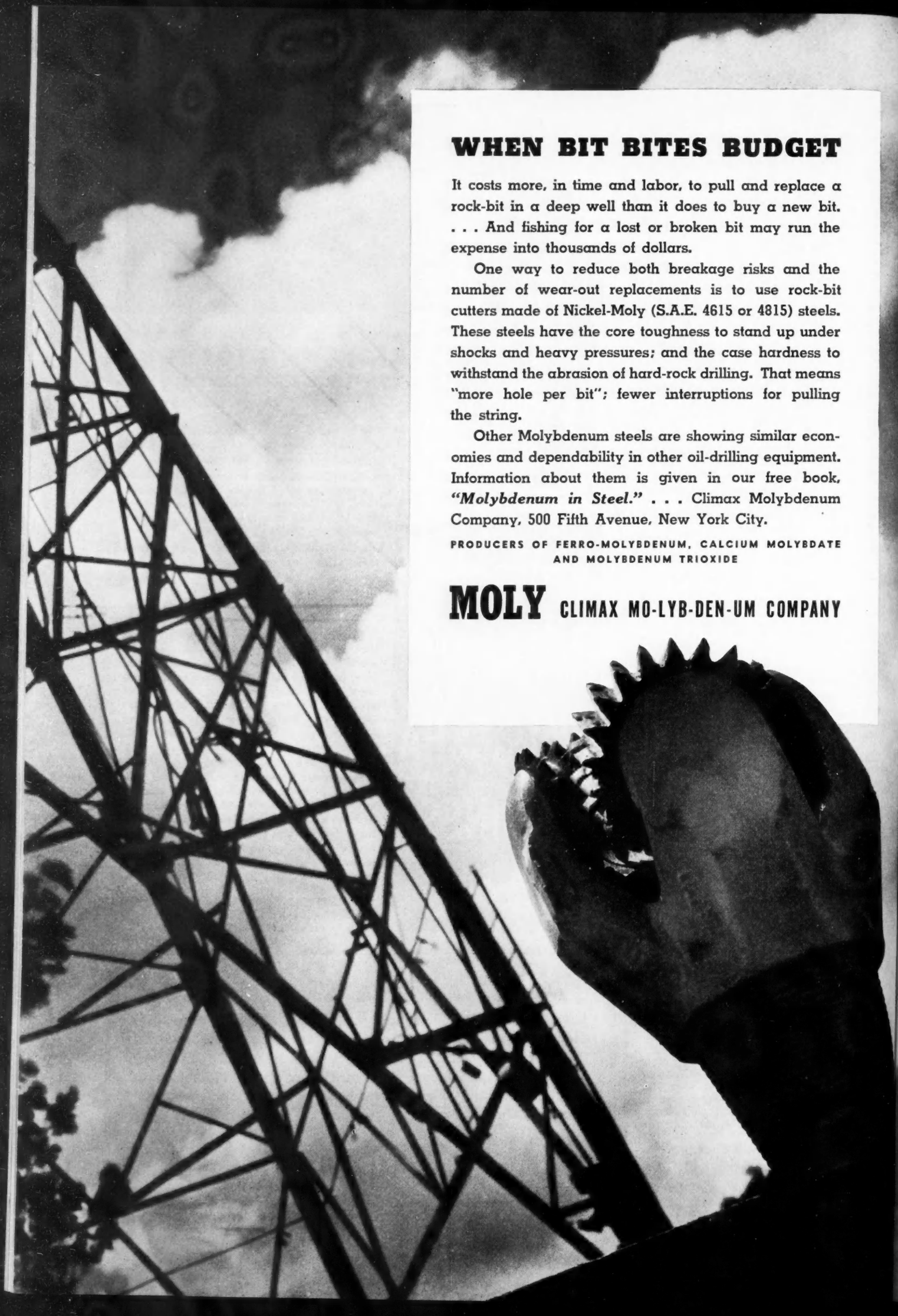

WHEN BIT BITES BUDGET

It costs more, in time and labor, to pull and replace a rock-bit in a deep well than it does to buy a new bit. . . . And fishing for a lost or broken bit may run the expense into thousands of dollars.

One way to reduce both breakage risks and the number of wear-out replacements is to use rock-bit cutters made of Nickel-Moly (S.A.E. 4615 or 4815) steels. These steels have the core toughness to stand up under shocks and heavy pressures; and the case hardness to withstand the abrasion of hard-rock drilling. That means "more hole per bit"; fewer interruptions for pulling the string.

Other Molybdenum steels are showing similar economies and dependability in other oil-drilling equipment. Information about them is given in our free book, ***"Molybdenum in Steel."*** . . . Climax Molybdenum Company, 500 Fifth Avenue, New York City.

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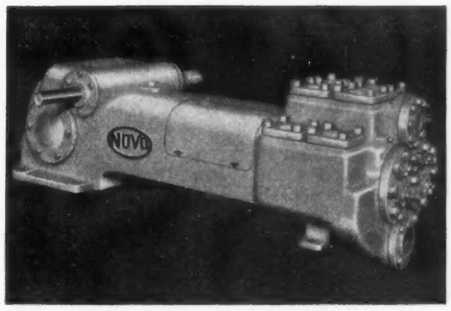
POWER PUMP
Novo Engine Company

Novo Engine Company, Lansing, Michigan, recently announced a new power pump for general oil field service, including handling oil, water and slush.



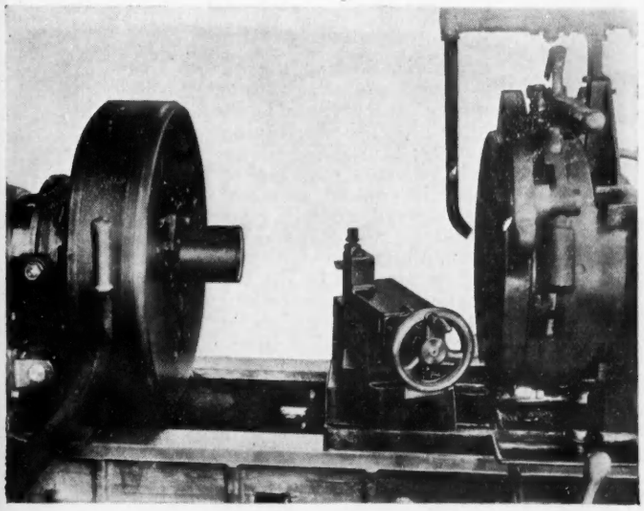
Novo Power Pump

The pump is fully enclosed, roller bearing equipped, has interchangeable liners for changing capacities, as well as interchangeable valve service, pistons, piston rods, and liners for slush, oil or water. The pinion shaft is extended through both sides of the power end, allowing power to be applied from either side; a neat cover is in place over the shaft end not in use.

TOOL FOR BEVELING PIPE
Landis Machine Company

Landis Machine Company, Waynesboro, Pennsylvania, has recently modified the construction of its line of pipe threading and cutting-off machines which are equipped with a beveling unit. The new beveling unit is placed on the carriage immediately in front of the threading head. This change was made in order to insure a more accurately formed beveled surface suitable for high-pressure pipe installations using flange joints having gaskets which seal against the beveled ends of the pipe.

In prior constructions the beveling unit was placed back of the threading head, and the pipe overhung a considerable distance beyond the chuck jaws while the beveling operation was being performed. This overhang can be materially reduced by the use of a pipe support, however, since the pipe may be somewhat out-of-round, the finished bevel is often unsuitable for application when it is utilized as a sealing surface. With the present arrangement, the pipe end overhangs the chuck jaws a relatively short distance. This arrangement is so rigid that an extremely accurate, smoothly finished bevel can be formed at all times. Where a thread is used in connection with the beveled surface, the bevel is absolutely concentric with the thread.



Landis Tool for Beveling Pipe

The beveling assembly is pivoted on a base which has been cast integral with the forward projection of the die head carriage. This base has a graduated scale to show the inclination of the tool assembly with respect to the center line of the pipe. The tool holder slide has a dovetailed slot to engage the corresponding dovetail of the base member. A gib is provided so that the clearance between the dovetail and its slot can always be maintained at any desirable value. Thrust collars are provided on the feed screw shaft to minimize wear between the shaft and the tool holder slide. The tool holder is thoroughly hardened so that the tool may be firmly clasped.

After the bevel has been cut the tool holder slide is retracted and the thread cutting operation may be started.

This beveling tool can be applied to the older models.

CENTRIFUGAL PUMP
Allis-Chalmers Manufacturing Company

Allis-Chalmers Manufacturing Company, Milwaukee, Wisconsin, has supplemented its line of single-stage "SSUnit" type pumps by adding a 2½ x 3½-inch two-stage "SSUnit" type pump good for heads up to 525 feet at 3550 revolutions. This pump has an efficient capacity range of from 50 to 100 g.p.m. against heads of from 300 to 500 feet. It is bolted to the motor by a splash-proof connection piece, the impellers being mounted on the special motor shaft extension, and the motor bearings also being the pump bearings like in the usual "SSUnit" construction.

This pump is available with motors of from 10 to 30

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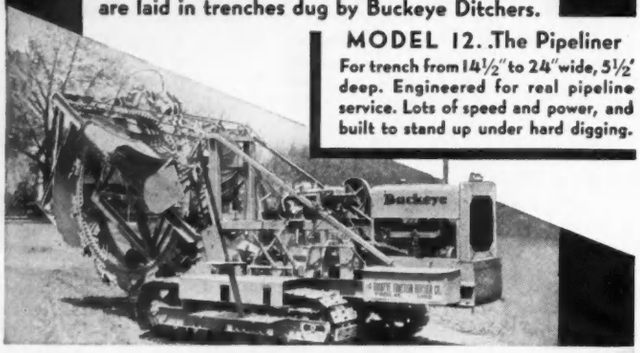
MODEL 12. .The Pipeliner

For trench from 14½" to 24" wide, 5½' deep. Engineered for real pipeline service. Lots of speed and power, and built to stand up under hard digging.



MODEL 49. . .The Mainliner

BIG trench is easy with this Buckeye. Digs to 43" wide, 8' deep. Transmission drive for all operations fully enclosed. Ruggedness and power keep costs low.

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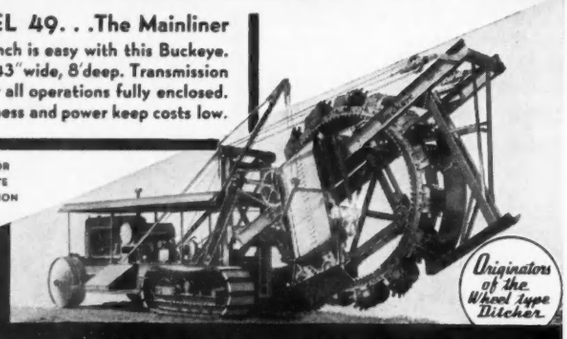

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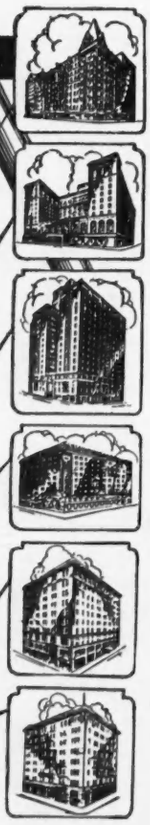

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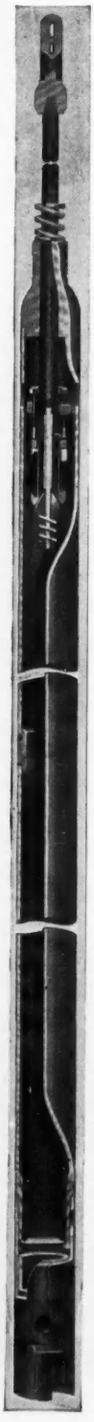
horsepower of the standard squirrel-cage type, splash-proof or explosion-proof types, and is a very adaptable pump for small boiler feed pumps, oil gathering, loading and small pipe line pumps and other small capacity, high-pressure services.

It operates with smoothness and the efficiency holds up well over a wide range. The standard pump has cast iron casing and cover, and is bronze fitted. The impellers are placed back to back, providing axial balance with the suction impeller next to the motor and the discharge passage from the first stage impeller cast integral with the main casing body and communicating with a passage in the cover leading to the inlet of the second stage impeller. This design permits the cover to be taken off, and the inside parts of the pump to be taken out without disconnecting the suction and discharge piping.

SAND PUMPS

The Cavins Company



The Cavins Company, 2853-2873 Cherry Avenue, Long Beach, California, has placed on the market two new models of sand pumps, the Mid-Continent type and the California type.

The Mid-Continent type is an all-purpose clean-out tool for use in production work or in connection with standard tools where quick change-over and ability to stand abuse are desired.

This pump features the pressure-equalizing tube which prevents accumulations of dangerous pressures within the load tube; the melo plunger head assembly; the synthetic rubber plunger which resists wear and deterioration by oil, mud, water, etc.; a modified plunger stroke which does not permit working parts to come in contact with recoveries; the split lifting head for quick detachment of rope socket; a swivel rope socket to prevent unravelling of line; and the two-section design which permits ease in handling.

The standard length is 35 feet over all in two sections, but it can be made longer or shorter according to specifications. It is made of seamless heavy wall tubes, and the material and machine work is of the highest grade throughout.

The California type is a general production and clean-out sand pump representing the latest development in plunger type clean-out tools. It gets larger discoveries and unloads them automatically, thus cutting down clean-out time as much as 50 percent.

Prominent among the qualities of this pump are the automatic self-dumping feature, and the safety dumping key; the melo plunger head assembly; a modified plunger stroke which prevents working parts from coming in contact with material being recovered, and the possibility of sanding up; and adjustable synthetic rubber plunger which resists wear and deterioration by oil, water, mud, etc.; the Cavins-Candee bottom, heat treated; and the two section design to permit ease of handling.

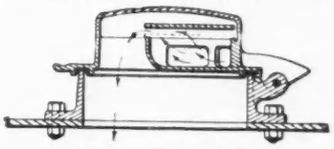
Cavins Sand Pump California Type.

Cavins Sand Pump Mid-Continent Type.

TANK VALVES

Enardo Foundry & Manufacturing Company

Enardo Foundry & Manufacturing Company, 2729 Sand Springs Road, Tulsa, Oklahoma, has placed on the market a new safety vacuum pressure tank valve for all bolted, wood, and welded steel oil storage tanks, which have been designed to eliminate evaporation losses and control pressure and vacuum.



Enardo Tank Valve

The valve is standard equipment on the products of many tank manufacturers. Built in one unit, it is spark-proof, weather-proof, corrosion-proof, fool-proof and leak-proof. A simple dead-weight gravity principle eliminates springs and sliding stems. No ice, oil, trash or sand can gather on the gasket or the seat; eliminating possibility of the valve being held open—and also facilitates cleaning.

The valves are 2-ounce pressure and 4-ounce vacuum, which is the A.P.I. recommendation for bolted tanks. All parts coming in contact with tank gases are made of rust-proof malleable cast aluminum alloy. The gasket is of flexible Neoprene synthetic sponge rubber, which is oil-proof, resilient, and insures holding of the volatile gas under press.

OVER-CENTER CLUTCHES

Rockford Drilling Machine Division

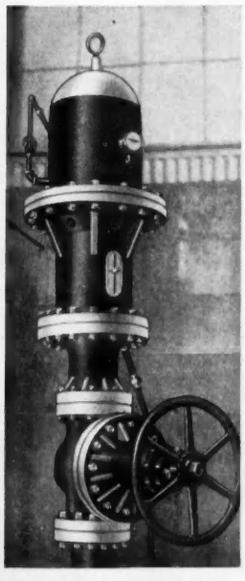
Rockford Drilling Machine Division, Borg-Warner Corporation, 202 Catherine Street, Rockford, Illinois, has developed over-center clutches which are used in connection with gasoline or Diesel engine drives for cranes, compressors, excavators, pumps and oil field equipment. They are available for operation in oil or dry, remain in or out of engagement until changed by the operator, are not affected by centrifugal force and may be interchanged with spring-loaded clutches.

Made in different sizes ranging from 7 to 20 inches diameter of faced driven member, capacities of standard single-plate O-C clutches range from 160 to 2000 foot-pounds torque, or 3 to 38 h.p. per 100 r.p.m. Double-plate O-C clutches, having a greater capacity for a given diameter, are available; and larger sizes in single or double-plate types are built to order.

An exclusive feature of these clutches is the anti-friction roller cam which makes the operation extremely easy, exerts heavy pressure symmetrically over the entire clutch face, and contributes substantially to long-time reliable operation without adjustment. Hardened and ground rollers bear upon hard steel inserts in pressure plate, and on hardened adjusting ring plate.

SAFETY SURGE CHAMBER

Mid-Continent Supply Company



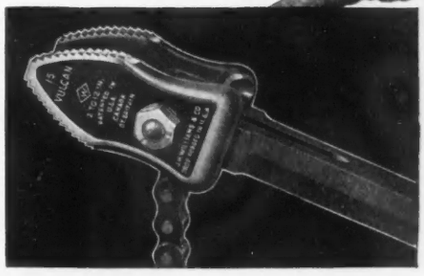
Mid-Continent Safety Surge Chamber

Mid-Continent Supply Company, Mid-Continent Building, Fort Worth, Texas, has recently placed on the market a new safety surge chamber, which has been designed for use on oil pipe lines to absorb pump surges. Only 100 pounds of air is used to cushion the 700 pounds of fluid pressure carried in the line. This eliminates the hazards and cost of maintaining a high pressure air system.

The air in this new chamber does not come in contact with the fluid at any time. The principle of design used is the same that is used in balloon tires for automobiles, namely low pressure cushion. It is only necessary to replace air over long intervals as the air is held in separate chambers with no means of escape.

The main feature of this surge chamber are: no attention is required when shutting down or starting pumps; oil and air do not come in contact; no high-pressure air system to maintain; sturdy construction, to withstand shocks; and fire hazards are eliminated.

TONGS



FOR EVERY TYPE OF OIL FIELD SERVICE

FOR DRILLING OPERATIONS:

Genuine "VULCAN" Tongs. Every part built to bear its share of the load. Chains proof-tested and certified; Jaws and Handle are tough drop-forgings; Through-bolt is extra heavy, and its U. S. Standard Nut simplifies replacement. Nine sizes with either Flat Link or Cable Chain—⅛ to 18″ pipe.

Also "VULCAN SUPERTONGS." The maximum in Chain Tong strength. Same design but drop-forged from Alloy and High Tensile steel, heat-treated and equipped with Alloy "SUPERCHAIN." 50% greater strength than regular "Vulcan" Tongs of corresponding size and weight. Eight sizes for ⅛ to 18″ pipe.

FOR PIPE LINE WORK:

"Vulcan BOLL-WEEVIL" Tongs. A reversible action Tong for flat pipe work—very efficient in trenches. Changes instantly from "Making-up" to "Breaking-out" without even unhooking chain. Jaws reversible for double life. Each chain proof-tested and certified. Four sizes, ¾ to 12″ pipe.

Also "BOLL-WEEVIL ZEPHYR." Greater strength with much less weight. Same structural and utility features as regular "Boll-Weevil," but heat-treated and equipped with Alloy "SUPER-CHAIN." Stronger and much lighter, capacity for capacity. Three sizes for ¾ to 12″ pipe.

J. H. WILLIAMS & CO.

211 Spring St., New York

Headquarters for: Drop-Forged Wrenches (Carbon and Alloy), Detachable Socket Wrenches, Reversible Ratchet Wrenches, "C" Clamps, Lathe Dogs, Tool Holders, Eye Bolts, Hoist Hooks, Thumb Nuts and Screws, Chain Pipe Tongs, Vises, etc.

WILLIAMS

SUPERIOR DROP-FORGED TOOLS

CATALOGS . . . BULLETINS

Helpful Publications Which Manufacturers Will Be Glad to Send Free for the Asking

Steel Valves

Hancock Valve Division, Manning, Maxwell & Moore, Bridgeport, Connecticut, announces the release of Bulletin 5-7000, in which the redesigned line of forged and cast steel valves is described.

Recorders and Thermometers

Mason-Neilan Regulator Company, 1190 Adams Street, Boston, Massachusetts, describes in a new 44-page bulletin its line of pressure recorders and indicating thermomepters. The bulletin is profusely illustrated and contains much data to aid in the selection of the proper instrument for the job.

Portable Compressors

Ingersoll-Rand, 11 Broadway, New York, has released a new bulletin, No. 3264, giving detailed information on the various models of portable compressors, the sizes of which range from 55 to 420 cubic feet per minute.

Centrifugal Pumps

Ingersoll-Rand, 11 Broadway, New York, has issued a new bulletin, No. 7067, giving specifications and operating characteristics of the Cameron class GT two-stage centrifugal pump.

Excavator

Bucyrus-Erie Company, South Milwaukee, Wisconsin, has published a new, 32 page bulletin which illustrates and describes the new 29-B one-yard excavator. The bulletin tells the story of this excavator with many illustrations showing mechanical improvements and engineering refinements.

Mechanical Packings

Linear Packing & Rubber Company, Philadelphia, has recently published a new complete manual and data book on mechanical packings. Sizes, weights, footage, together with standard packaging are given. Packings are fully illustrated and described in detail, supplemented by a carefully compiled chart of service recommendations.

Electric Motors

U. S. Electric Motors, Los Angeles, has issued three new bulletins on various types of electrical units. The bulletin entitled "Streamline Protection" describes the "Uniclosed" motor and shows the method of ventilation provided in this unit. The "Asbestos Protected" bulletin describes the method used in insulating and winding motors, and the "Autostart Grinder" bulletin enumerates and illustrates the various features of grinders and buffers.

Pressure Lubricator

American Chain & Cable Company, York, Pennsylvania, recently announced publication of a folder entitled "Pressure Lubrication Without Special Fittings." This booklet shows how pressure lubrication is possible even with common oil holes and without the use of any special fittings because of the "oilingseal" tip which is integral part of the lubricator.

Shims and Spacers

Laminated Shim Company, Incorporated, 21-42 Forty-Fourth Avenue, Long Island City, New York, has recently released a new folder illustrated with action photographs, showing methods of securing quick and accurate adjustments of mechanical parts in the oil industry. The folder deals specifically with petroleum drilling, production, refining and allied equipment maintenance problems.

Remote Transmission System

The Brown Instrument Company, Philadelphia, has just published a new folder on the pneumatic remote transmission system. The system's principle of operation and the rugged construction of the transmitting unit are illustrated by schematic diagrams.

Chemical Injector

American Lubricator Company, First National Bank Building, Dallas, Texas, has published a descriptive folder covering details of the new "Standard" force and sight-feed chemical injector, high-pressure type, for oil field service. The method of pumping chemical into the oil line automatically, the driving mechanism, the chemical reservoir, and other important points of design and construction are explained in this folder.

Gas Burner

Hunt Tool Company, 1945 St. Bernard Street, Houston, has issued a 4-page descriptive folder on the Reagan improved low pressure gas burner, which is now manufactured and distributed by the company. The advantages offered by patented features of this burner are explained in this folder.

Socket Instruments

Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pennsylvania, has recently issued a 20-page booklet entitled "Socket Instruments for Industrial Application," which illustrates installations, applications and economies of these "plug-in" instruments. A complete line of electrical instruments are shown, including portable instruments, medium switchboard instruments, large switchboard instruments and socket instruments.

Steam-Jet Ejectors

Worthington Pump and Machinery Corporation, Harrison, New Jersey, describes in a new bulletin its improved line of two-stage, condensing type, single and double element steam-jet ejectors.

Steel Fences

Wickwire Spencer Steel Company, 41 East 42nd Street, New York, announces the publication of a complete chain link fence catalog. Printed in two colors, this 50-page booklet contains photographs of fence for every type of industrial property, and in addition shows numerous diagrams, charts and construction drawings.

Roller Bearings and Needle Rollers

Norma-Hoffmann Bearings Corporation, Stamford, Conn., has issued a new bulletin, No. 962, describing in detail precision needle roller bearings and needle rollers. The bulletin gives complete data as to sizes, dimensions, and load ratings of complete bearings. Standard sizes of precision needle rollers are given together with ample engineering information.

Oil Testing Equipment

Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pennsylvania, has summarized in an 8-page illustrated pamphlet field and truck type outfits for testing oil. The catalog describes the operation of high-voltage testing equipment to be used in cable testing. Each type of equipment is illustrated and tables include list prices and styles.

Deep Well Chart

Patterson-Ballagh Corporation, 1900 East 65th Street, Los Angeles, has published a well chart bringing up to date all of the data on wells drilling in the world deeper than 10,000 feet.

Hoist—Derricks—Shovel

American Hoist & Derrick Company, St. Paul, Minn., recently issued three new catalogs: No. HB-3, covering the new general purpose hoist; No. GS-3 describing the model 350-½-yard shovel-crane-dragline; and No. D-1, covering all types of steel derricks.

Turret Lathe Tools

The Warner and Swasey Company, Cleveland, Ohio, has released a new catalog, No. 38, dealing with various types of turret lathe tools. This manual is well illustrated and contains numerous tables with reference to dimensions and order specifications.

Mechanical Packings

Linear Packing & Rubber Company, State Road and Levick Street, Tacony, Philadelphia, has recently published a well illustrated catalog on the various types of mechanical packing. The booklet gives service recommendations and contains technical data.

Pillow Block

Palmer-Bee Company, Detroit, Mich., has issued a new folder describing a cast-steel self-aligning pillow block, which the company recently placed on the market.

Pumping Units

Atlas Supply Company, Muskogee, Oklahoma, has announced publication of 8 new illustrated bulletins, which simplify specifications, illustrations and general information pertaining to the company's various types of pumping units.

National Bulletins

The National Supply Company, Pittsburgh, has issued the following bulletins:

No. 168, describing the various types of tubing spiders; No. 163, on type DH-1 and DH-1A tubing heads; No. 167, on type F-1 water valves and seats; No. 166, on type OH-1 stripper tubing head; No. 170, on Superior model "A" Diesel oil field auxiliary unit; No. 164, on type EH casing head; and No. 165, on types JH and KH casing heads.

General Electric Bulletins

General Electric Company, Schenectady, New York, has announced publication of the following buletins:

No. GEA-1929A, on gear motors; No. GEA-2823, on commercial testing instruments for direct or alternating current; No. GEA-2003B, on automatic oil circuit recloser, type PF; No. GEA-2170A, on directional distance relays, type GCX; No. GEA-1423A, on CR9507 Solenoid-operated valves; No. GEA-1590C, on CR7006 oil-immersed magnetic switches; No. GEA-67E, on CR2931 float switches; No. GEA-2776, on type WD-32BY gasoline driven arc welder; No. GEA-2704, describing a full line of arc welding accessories; No. GEA-1587C, on combination magnetic switch CR7008 for full-voltage starting of induction motors; No. GEA-2635, on recording instruments; and No. GEA-2473, on push-button stations and other CR2940 manual electric controls for use in control circuits of magnetic controllers.

Wrought Iron

A. M. Byers Company, Pittsburgh, recently issued a technical bulletin, entitled "Wrought Iron for Piping Systems." The bulletin discusses pipe materials; costs; pipe selection; water supply, drainage, heating and power systems and devotes a section to installation procedure. A feature of special value is the appendix, containing statistical data regarding the life of various pipe materials in specific installations.

Measuring Devices

Lufkin Rule Company, Saginaw, Michigan, recently issued a new catalog, No. 12-A, containing descriptions and specifications of the company's various products.

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MANUFACTURER'S NAME

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MANUFACTURER'S ADDRESS

Please send me, without obligation, free booklet on . . . . . described in June 13, 1938, issue of THE OIL WEEKLY.

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ADDRESS. . . . . .

Boiler Meters

Baily Meter Company, Cleveland, Ohio, has published a 32-page bulletin, "Baily Boiler Meters," containing an analysis of 7000 combustion tests made during the last 12 years on all types and sizes of boilers including a full range of fuels and methods of firing.

Roofing

Johns-Manville, 22 East 40th Street, New York, has recently revised its book "Bonded Built-Up Roofs" and includes now information on the latest types of built-up roofing. A feature of the revised edition is a newly organized table of condensed specifications which is a convenient source of quick information.

Speed Reducer

D. O. James Manufacturing Company, 1114 West Monroe Street, Chicago, has published a new 176-page speed-reducer catalog No. 150 with complete listings of numerous types of reducers. The book shows the stock ratios assembled from stock parts for immediate shipment.

Oil Well Literature

Oil Well Supply Company, Dallas, Texas, has recently issued the following literature:

Bulletin No. 184 on No. 6-P power driven pump; bulletin No. 147 on cable-tool drilling units; and No. 173 on packers.

Pipe Welding

Metal & Thermit Corporation, 120 Broadway, New York, covers in a new 12-page bulletin arc welding of piping for operation at pressures up to 1500 pounds per square inch and temperatures up to 1000° F. The bulletin discusses weld design, welding procedure, preheating, stress relieving, testing of welds and the qualification of welding process and welding operators.

Expansion Joints

E. B. Badger & Sons Company, Boston, Massachusetts, has published bulletin No. 200, which describes briefly the various kinds of packless expansion joints. Uses, list prices, dimensions and weights of copper and stainless steel non-equalizing expansion joints are contained in this bulletin.

Power Units and Tractors

International Harvester Company, Incorporated, 180 North Michigan Avenue, Chicago, Illinois, recently published a 32-page, well illustrated bulletin entitled "International Oil Field Power," which discusses briefly the various applications and uses of power units and tractors in oil fields.

Metameter System

The Bristol Company, Waterbury, Connecticut, in a recent bulletin No. 506 describes the Metameter system for telemetering and remote automatic control. This system is illustrated by photographs and chart records, which give a few facts regarding an installation of these instruments for the remote automatic control of gas distribution pressure.

National Supply Company Literature

The National Supply Company, Pittsburgh, Pennsylvania, recently published the following literature:

Bulletin No. 177, describing types H and K back crank pendulums; bulletin No. 175, on type "GB" vertical two cycle 3 and 4 cylinder convertible gas engine; bulletin No. 172, on type "B" Ideal underfloor direct rotary drive; and bulletin No. 174, on Superior Vertical two-cycle type "FB" gas engine. When writing to the company, please mention bulletin number.

General Electric Literature

General Electric Company, Schenectady, New York, has announced publication of the following literature:

Bulletin No. 841-H, on A-C magnetic switch; bulletin No. 432C, on direct current generators and exciters; bulletin No. 1283A, on cam-operated master switches; bulletin No. 2630, on Dew-point potentiometer; bulletin No. 2426A, on type FLO-1 outdoor oil-blast circuit breakers; bulletin No. 1841, entitled "Instruments in Industry"; and bulletin No. 2742, on Pyranol capacitors for low-voltage industrial applications. When writing to the company please mention bulletin number.

Wrought Iron

"Wrought Iron in the Oil Industry" is the title of an interesting booklet dealing with the application of wrought iron in the production and transportation branch of the oil industry. Copies may be had by writing A. M. Byers Company, Pittsburgh, Pa.

Pneumatic Telemetering

The Bristol Company, Waterbury, Connecticut, has just published a four-page bulletin No. 513, describing the new Metavane system of pneumatic telemetering. It gives information regarding the use of this instrument for automatically controlling flow, temperature, pressure and liquid level at a distance.

This Week with the Industry's EQUIPMENT SUPPLIERS

Continental Supply Company To Construct Plant in Houston

The Continental Supply Company, Dallas, last week announced plans for the erection of a $250,000 plant on the Houston Ship Channel facing Navigation Boulevard. The company intends to make Houston its distributing center for the Texas and Louisiana Gulf Coast.

The construction will include a two-story modern office building with plate glass windows for display of equipment. Behind this structure will be a one-story building, of loading height, for machinery. Dock facilities also will be constructed on the water front and a traveling crane will be built to handle loading from boats to rail cars or trucks. Five switch tracks for rail shipping will also be constructed.

Youngstown Sheet & Tube Company has also established Houston as distributing point for mill-stock pipe through The Continental Supply Company, its subsidiary.

Link-Belt Company Building Factory Addition at Indianapolis

Link-Belt Company last week started a $300,000 construction project, comprising a new factory building addition and a new power house for its Ewart Works plant in Indianapolis. Both buildings, designed to incorporate the latest ideas for modern manufacturing, will be constructed of reinforced concrete and steel, with glass brick being used in the factory structure. The factory building will be one-story, 280 x 300 feet in size, of the mill type with a sawtooth roof. The power house will contain two 400-horsepower boilers.

Lane-Wells Company to Operate in Canada

Lane-Wells Company, with headquarters in Los Angeles, has been admitted to do business in Alberta, Canada. The company plans to establish a store for the convenience of operators in the Turner Valley and other West Canadian fields.

Wheeling Machine Products Acquires Supply Company

Wheeling Machine Products Company, Wheeling, West Virginia recently acquired Trimble & Lutz Supply Company of the same city. The latter company will continue to operate as a separate corporation, as a subsidiary of Wheeling Machine Products Company.

McKissick Corporation In New Quarters

The McKissick Products Corporation has purchased and now occupies a new plant on the Dawson road, just east of Lewis Avenue, in Tulsa. Increasing floor space from 6400 to something over 16,000 square feet, this company is now adequately housed.

McKissick Headquarters

K. S. RICHARDS

General offices of K. S. Richards, oil country distributor for Atlas-Imperial Diesel Engine Company of Oakland, California, have been moved from Wichita, Kansas, to 201 South Calhoun Street in Fort Worth, Texas.

Bode-Finn Appointed Distributor For Bucyrus-Erie Company

Bucyrus-Erie Company, South Milwaukee, Wisconsin, has appointed Bode-Finn Equipment Company, 1654 Central Avenue, Cincinnati, Ohio, as distributor in southern Ohio. The company's shovels, draglines, clamshells, and lifting cranes, ranging from ⅜- to 2-yard sizes, will be sold by the company.

This new distributor will work with the cooperation of the company's branch office, 1502-03 Clark Building, Pittsburgh.

Walter Ruska & Company Erects New Building

Walter Ruska & Company, 6512 Westchester, Houston, is erecting a one-story shop and laboratory building at 2332 Bellaire Boulevard in Houston.

Of attractive, modernistic design, the structure will be five times as large

Standco
NO-SMOKE
STANDCO BRAKE LINING
Nothing novel—no bunk—but it gets the job done without scoring brake rims. See page 1940, Composite Catalog.
Standard Brake Lining Co.

MURRAY RUBBER CO.
Specializing in the manufacture of High Quality
Mechanical Rubber Goods
Prompt, Efficient Service to
OIL FIELD EQUIPMENT MANUFACTURERS
Molded, Mandrel and Extruded Packers and Washers
Houston's Only Exclusive Jobbing Manufacturing plant. Equipped with Calender, Mill, Tuber, Presses and Pot Vulcanizers.
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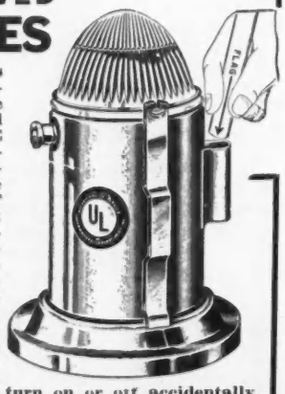
All states issuing approvals have approved ECOLITE FLARES. Ecolite Flares also carry the Underwriters' label and meet the Automotive Engineers' Recommended Practice Specifications.
Ecolite Flares are weatherproof, cannot short, cannot turn on or off accidentally, are visible a full mile, due to exclusive dome design. NO FUSES NEEDED. No odor or fumes. No liquid to spill. No dirt or soot. Operate 60 to 80 hours.
Available at Supply Stores and Automotive Jobbers
ECONOMY ELECTRIC LANTERN CO.
325 W. Huron St. Chicago, Ill.

as the present one, with room provided for future expansion, and is to be finished in white stucco with black glass and chrome trim. Plans are made to landscape the lot in harmony with the general appearance of the neighborhood. A total investment of approximately $35,000 will be represented in the lot, the building and the equipment. Covering 40 by 85 feet the structure will be of brick, hollow tile and concrete, with steel sash throughout. Offices will occupy the front of the edifice, while adjoining on the east side will be an instrument calibrating room and an electrical laboratory. A petroleum engineering laboratory will occupy the west side, and in the rear of the building will be the instrument shop.

Baird Manufacturing Company Moves Into New Quarters

Baird Manufacturing Company, Tulsa, has moved into its new and larger quarters at 3105 Sand Springs Road.

Direct sales representation is maintained by the company in the oil fields of Arkansas, Kansas, Oklahoma, Louisiana, and Texas with deliveries through supply houses, and export sales through the New York office in the Graybar Building.

The officers include L. D. Baird, president; A. R. Simons, treasurer; and Joseph A. Gill, Jr., secretary.

Baird Manufacturing Company's New Building

Crane Company Promotes L. B. Hampton

Crane Company, 836 South Michigan Avenue, Chicago, has announced the appointment of L. B. Hampton as manager of the Pacific Northwest district, succeeding F. A. Nitchy, who is retiring after 46 years service with the company. The district embraces the states of Washington, Idaho, nearly all of Oregon and Utah and parts of Nevada, Montana and Wyoming.

Nitchy joined Crane Company in 1887 at Kansas City, Missouri, and, but for a four year period from 1889 to 1893, he has been with the company ever since. He went west in 1888, working in both the Los Angeles and San Diego branches of the company, and then joined the Portland, Oregon, branch in 1893, becoming manager there April 1, 1898. Nitchy was both branch and district manager beginning April 1, 1936, and after March 15, 1937, he devoted his entire time to district supervision.

Born at Salt Lake City, Utah, Hampton joined Crane Company there in 1903. He became assistant manager of the Salt Lake City branch in 1911 and manager in 1915, remaining in that post until 1937 when he went to Portland, as branch manager. He is a past president of the Salt Lake City Chamber of Commerce and Rotary Club. The headquarters of the Pacific Northwest district will continue at Portland.

Hampton's sucessor as manager of the Portland branch is Robert C. Smith, who has been assistant manager.

Thornton Tandem Company Moves Into New Location

Thornton Tandem Company, Detroit, recently announced the removal and consolidation of its Braden Avenue and McKinstry plant into a larger factory building, located in the northeast section of Detroit. The building which contains 29,840 square feet of floor space, is situated on a five-acre site at 8701-79 Grinnell Avenue with Detroit Terminal R. R. siding facilities.

East Texas Directory Revised to May 1

The East Texas Oil Field Directory, published annually by G. E. Wimberly, P.O. Box 442, Kilgore, Texas, has been revised to May 1, and is now available for distribution. Contents of the directory have been expanded to cover the East Texas, Rodessa, Talco, Sulphur Bluff and Jefferson fields. Name and address of each operator and the superintendent of production for same is listed in alphabetical order by fields, with number of leases and wells included. Handy reference tables pertaining to field operations are an added feature of the current issue.

Book presents detailed Louisiana field data

Much valuable and interesting information on the oil and gas fields of both South and North Louisiana is embodied in the impressive 468-page book that is the "Thirteenth Biennial Report of the Louisiana Department of Conservation, 1936-1937."

Beginning on page 172 and extending for 210 pages, to page 382 is the long, interesting, well illustrated "Report of the Division of Minerals," by Dr. J. A. Shaw, director. In this section appear detailed data on all the oil and gas fields of both South and North Louisiana, on the sulphur mines, on natural gasoline, on carbon black, and on limerock quarrying.

Ahead of that minerals section is the allied report of the Louisiana Geological Survey, 1936-1937, by Dr. H. V. Howe, director, research division, and Cyril K. Moresi, state geologist. That section extends 44 pages, from page 127 to page 171.

The book was published by the Department of Conservation, 126 Civil Courts Building, New Orleans, Louisiana.

Squeaks from the Bull Wheel

Grammar

"What's that there word 'matrimony' mean?"

"That ain't no word—that's a sentence, man!"

Explained

"My shaving brush is very stiff," complained Dad. "I wonder what's wrong with it?"

"I don't know," said wifey. "It was nice and soft when I painted the bird cage yesterday."

Insurance

"Madam, you should get your husband to take out a life insurance policy."

"But he has a policy against fire!"

"But fire insurance would not help him if he passed away."

"Not even if I had him cremated?"

What to Expect

"Hey, what's the idea," called the manager of a tavern to a Scotsman, "ordering a glass of water and then walking out."

"What did ye expect me tae do?" replied the Scot, "stagger oot?"

Whisper

"Can I help you start that car? I know a lot about that make."

"Well, whisper it. There are ladies present."

Protection

When the negro cook returned to work Monday morning, the housewife observed her taking an ice pick out of her bosom and throwing it into the cedar ice bucket.

"Liza," she asked, "what have you been doing with our ice pick?"

"Land sakes alive, Missy, don't you know no colored gal what is a lady would go to town Sattidy night without a ice pick?"

Technicality

A colored church was organizing a Society of Virgins. One applicant came up carrying a baby in her arms.

"But, Sister," queried the secretary, "how come yo' figger yo' is able to join dis heah society?"

"Well," replied the woman, "I was only foolin' when this happen, an' I 'lowed as how I could get in as one of dese Foolish Virgins."

Old Family

Asked to tell something about the history of his family, Sandy Douglas, just over, replied that the line ran away back into antiquity.

"How far back?" asked his new American friend.

"Weel, we dinna ken hoo far back it rins," Sandy explained, "but it's a lang, lang way back. It took five volumes to hold the history of the Douglas family. In aboot the middle of the third volume, in a marginal note, we read, 'Aboot this time the warld was created'."

Sure Sign

"I know he's not what you would call a pedigreed dog," she said, "but no tramp or beggar can come near the house without his letting us know about it."

"What does he do?" asked her friend, "bark the house down?"

"No; he crawls under the sofa."

Plain Golf Stuff

After the first hole, the Englishman turned to his Scots opponent.

"How many did you take?" he asked.

"Eight," replied the Scotsman.

"I took seven, so that's my hole," said the Englishman.

After the second hole, the Englishman asked the same question. This time the Scotsman shook his head.

"Na, na, laddie," he replied, "it's mae turn to ask first now."

Why All the Noise

A minister on a westbound train was reading his Bible when a man leaned over the back of his seat and said: "I don't believe a word in that book." The minister ignored him and presently he repeated in a louder voice, "I don't believe a word in that book."

Losing patience, the minister turned and looked at his interrupter. "My good man," he said, "would you mind going to hell quietly?"

The Truth Wanted!

A certain J. P. who was not overalert, recalled a witness.

"My man," he said sternly, "you may yet find yourself committed for perjury. Only a few moments ago you told the Court that you had only one brother, but your sister has sworn that she has two. Now, then, out with the truth."

WPA Preacher

The chaplain of the United States Senate receives a salary of $1680 a year to offer a prayer at the beginning of each legislative day. At this session the Senate has been following the practice of recessing instead of adjourning and technically speaking, there have been only two legislative days. If, as now seems probable, this plan will continue to the end of the session, the chaplain will receive $840 per prayer.

Interpretation!

The wife of a man who had enlisted in the Navy handed the pastor of a church the following note:

"Rex Vernon having gone to sea, his wife desires the prayers of the congregation for his safety."

The minister glanced over it hurriedly and announced:

"Rex Vernon, having gone to see his wife, desires the prayers of the congregation for his safety."

The Law

"Did you really get the Goldrocks estate settled up?"

"Yes, finally. But I had a hard fight. Why, do you know the heirs almost got a part of it?"

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